



## **APPENDIX A**

### *SR 997/Krome Avenue Existing Level of Service Study*

SR 997/Krome Avenue  
Existing Level of Service Study

SW 296th Street/Avocado Road  
to  
US27/Okeechobee Rd  
Miami-Dade

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**Florida Department of Transportation  
District VI**

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**August 2002**



**Prepared by Kittelson & Associates, Inc.**



# Krome Avenue Existing LOS and Safety Analysis

Miami-Dade County, Florida

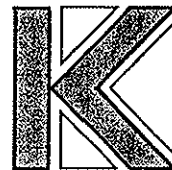
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Project No. 4533.03

August 2002



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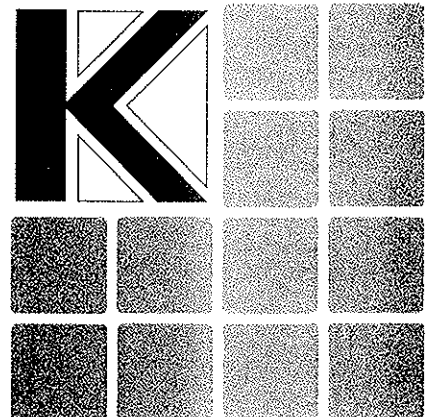
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## Executive Summary



## Executive Summary

The purpose of this study is to perform a detailed Level of Service and safety analysis for existing conditions along the SR 997/Krome Avenue (177<sup>th</sup> Avenue) corridor. The portion of Krome Avenue that was analyzed includes a two-lane highway section of slightly less than 33-miles in length. The section begins on the south at SW 296<sup>th</sup> Street (Avocado Drive) - at the City of Homestead northern limits - and ends on the north at US 27 (Okeechobee Road). The southern limit of the study area is at MP 3.827 in Section 87, subsection 150000, and the northern limit is at MP 14.275 in Section 87-subsection 070000. This study area is divided into five segments for analysis purposes:

- SW 296<sup>th</sup> Street (Avocado Drive) to SW 232<sup>nd</sup> Street (Silver Palm Drive) - 4.052 miles
- SW 232<sup>nd</sup> Street (Silver Palm Drive) to SW 184<sup>th</sup> Street (Eureka Drive) - 3.017 miles
- SW 184<sup>th</sup> Street (Eureka Drive) to SW 88<sup>th</sup> Street (Kendall Drive) - 6.535 miles
- SW 88<sup>th</sup> Street (Kendall Drive) to SW 8<sup>th</sup> Street (Tamiami Trail) - 4.999 miles
- SW 8<sup>th</sup> Street (Tamiami Trail) to US 27 (Okeechobee Road) - 14.275 miles

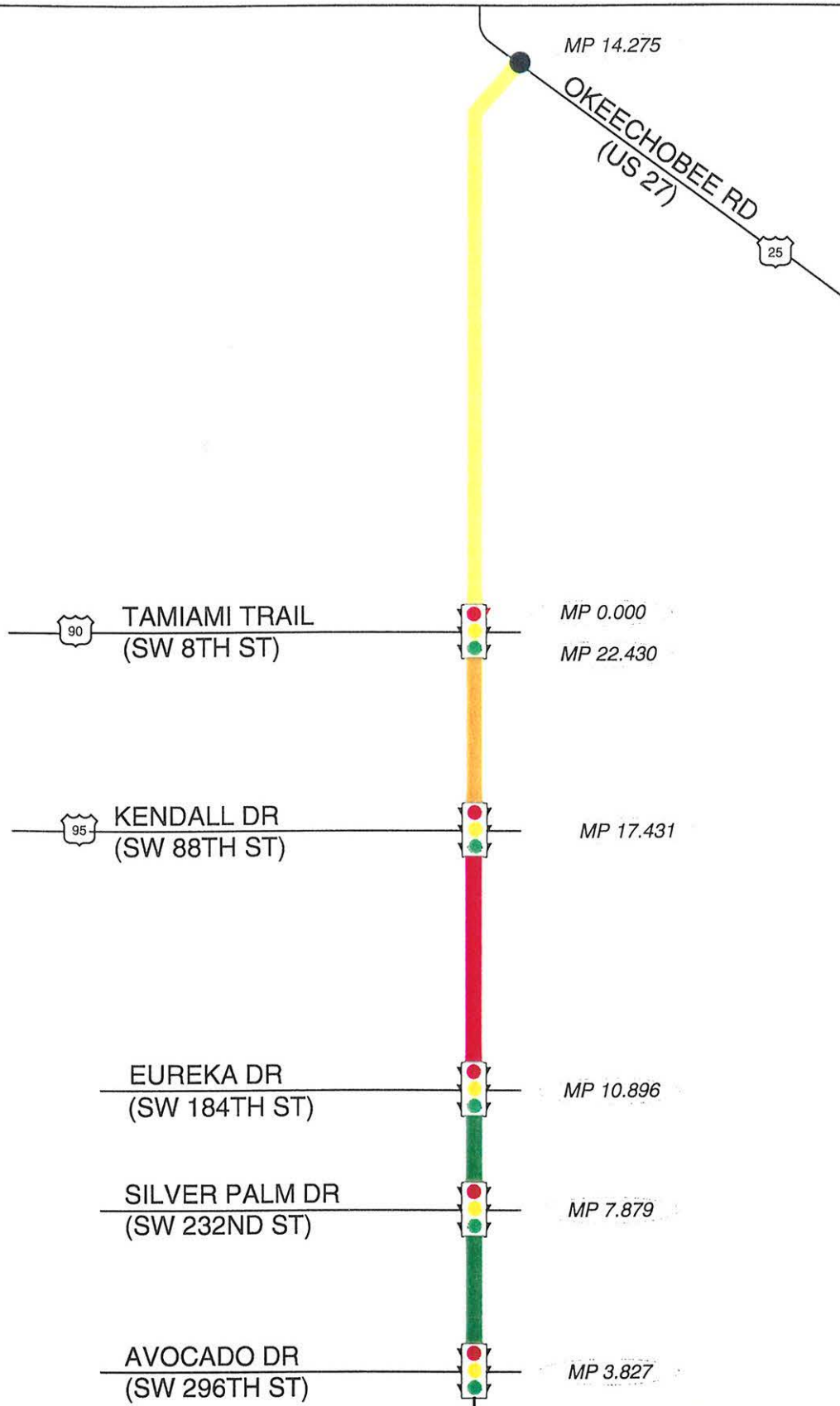
There are ten signalized intersections along this 33-mile section. Exclusive left turn lanes are provided at each signalized intersection in both northbound and southbound directions except at Avocado Drive and Tamiami Trail. The signal density (i.e., number of signals per mile) varies significantly on the five segments listed above. From south to north, the five segment signal densities are: 0.99 per mile, 0.99 per mile, 0.15 per mile, 0.20 per mile, and 0.04 per mile, respectively. Thus, the two southernmost segments are more suburban in character, while the three northernmost segments are more rural in character.

### Traffic Characteristics

The year 2001 Average Daily Traffic (ADT) volumes vary between 14,100 and 14,800 south of Tamiami Trail. North of Tamiami Trail, the year 2001 ADT is 9,000. Since 1995, the ADT has grown at an average annual rate that ranges from five percent to 21 percent. **From south to north, the five segment average annual growth rates are: 13%, 11%, 10%, 21%, and 5%, respectively.** The highest hourly volume occurs in the morning peak hour. During the morning peak hour in the southern two segments, the volume in each direction varies between 580 and 770 vehicles. North of Eureka Drive, there is a heavy northbound a.m. peak hour flow of between 580 and 1030 vehicles. The southbound a.m. peak hour flow is between 410 and 700 vehicles. The percentage of vehicles that are trucks on Krome Avenue is very high: varying between 20.4% and 33.4% during the weekday a.m. peak hour.

### Arterial Operation Analysis

HCS-Arterials was used for the urbanized arterial analysis, and HCS Two-lane was used for the rural analysis. Using the traffic volumes measured on Krome Avenue and the procedures contained in the Quality/Level of Service Handbook (Florida Department of Transportation, 2002), the arterial Level of Service was estimated for the morning peak hour. As shown in Figure E-1, three of the five segments operate at acceptable conditions (Avocado Drive to Silver Palm Drive and Silver Palm Drive to Eureka Drive: LOS A, Tamiami Trail to Okeechobee Road: LOS C). **The segment from Eureka Drive to Kendall Drive operates at Level of Service E. The segment from Kendall Drive to Tamiami Trail operates at Level of Service D.**



### LEGEND

- LOS A
- LOS C
- LOS D
- LOS E

### ARTERIAL LEVEL OF SERVICE

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA

AUGUST 2002

FIGURE

E-1



4533KROME (ART LOS)

To confirm these estimates of arterial Levels of Service, travel time and delay studies were conducted along Krome Avenue. The Level of Service was determined based on measured travel speeds, consistent with the procedures contained in the Florida Manual on Uniform Traffic Studies and Highway Capacity Manual. Based on the northbound travel time and delay observed in the field, the segment from Avocado Drive to Silver Palm Drive operates at Level of Service B, and Silver Palm Drive to Eureka Drive operates at Level of Service C. The two segments between Eureka Drive and Tamiami Trail operate at Level of Service D, and the segment from Tamiami Trail to Okeechobee Road operates at Level of Service C. The reported Level of Service based on the travel time and delay study is consistent with the estimated Level of Service calculated from the FDOT Quality/Level of Service Handbook procedure.

### Intersection Operation Analysis

A weekday morning peak hour Level of Service analysis was conducted at ten signalized and four unsignalized intersections. Volumes were collected for both morning and afternoon peak periods and it was determined that the traffic characteristics were similar for both peaks. The morning period was chosen for analysis because it has a slightly higher volume. The four unsignalized intersections chosen for analysis are considered to be larger intersections and/or to have a high crash history.

The operational analysis at the 14 intersections was performed using the Highway Capacity Software (HCS) package. **HCS-Signals** was used for the ten signalized intersections. **HCS-Unsignal** was used for the four unsignalized intersections.

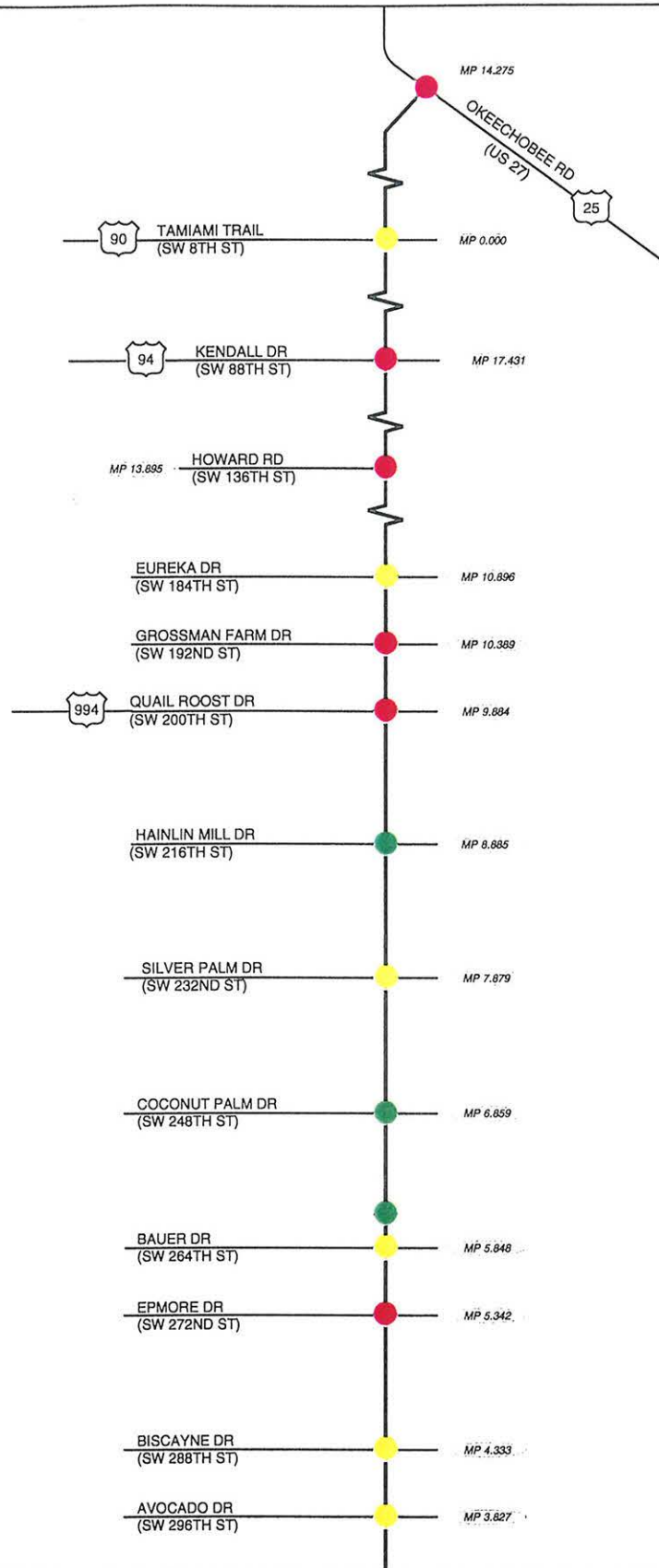
As seen in Figure E-2, two of the ten signalized intersections operate at Level of Service F and all four unsignalized intersections operate at Level of Service F as listed in Table E-1.

**Table E-1: Performance Measures for Intersections with Level of Service of F (Morning Peak Hour)**

Intersection	Critical v/c	Delay (sec)	Intersection LOS
Epmore Drive/SE 272 <sup>nd</sup> Street - signalized	0.73	83.2	F
Quail Roost Drive/SW 200 <sup>th</sup> Street	1.02*	94.3*	F
Grossman Farm Drive/SW 192 <sup>nd</sup> Street	0.84*	111.0*	F
Howard Road/SW 136 <sup>th</sup> Street	1.69*	397.5*	F
Kendall Drive/SW 88 <sup>th</sup> Street - signalized	1.03	238.0	F
Okeechobee Road/US 27	1.59*	366.7*	F

\* Values are for the critical movement





### LEGEND

- LOS B
- LOS C
- LOS F

### INTERSECTION LEVEL OF SERVICE

KROME AVENUE - EXISTING LOS ANALYSIS  
 MIAMI, FLORIDA  
 AUGUST 2002

FIGURE  
**E-2**



4533KROME (INT LOS)

## Crash Analysis

All crashes on Krome Avenue were analyzed for the years 1995 to 2000, inclusive. Of the 16 intersections that were analyzed, five had abnormally high crash ratios:

- SW 248<sup>th</sup> Street (Coconut Palm Drive) in 1998
- SW 136th Street (Howard Road) in 2000
- SW 88th Street (Kendall Drive) in 1996
- SW 8th Street (Tamiami Trail) in each of the six years, from 1995 to 2000, and
- US 27 (Okeechobee Road) in 1996 and 1999.

Of the five segments on Krome Avenue, the two southernmost segments consistently had high crash ratios for each of the six years. Over half of all of the crashes in these segments occurred at signalized intersections. The segment between Eureka Drive and Kendall Drive had high crash rates for three of the six years. The segment between Kendall Drive and Tamiami Trail had high crash rates for four of the six years. The segment between Tamiami Trail and Okeechobee Road had high crash rates for five of the six years (Figure E-3). **Compared with the statewide average for rural highways, Krome Avenue consistently had a higher crash rate for the six years that were analyzed (1995-2000).**

Fatal crashes from January 1995 to March 2002 were investigated more closely. **The number of fatal crashes increased significantly after the year 1999, especially from Eureka Drive to Kendall Drive (see Figure 13-C) and from Tamiami Trail to Okeechobee Road (see Figure 13-E).** Of the 39 fatal crashes that occurred from 1995 to March 2002, approximately half of them occurred at night. **Fifteen of the 39 fatal crashes were head-on crashes (accounting for 24 fatalities).** The segment from Eureka Drive to Kendall Drive had the highest fatal crash rate. In a length of less than five miles, there were 14 fatal crashes from 1995 to 2001. All three of the fatal crashes that occurred in the first three months of 2002 were within a three-mile segment north of Tamiami Trail. A summary of the fatal crashes that occurred in the last seven years is presented in the Table E-2.

Table E-2: Summary of Fatal Crashes and Fatalities (1995-March 2002)

Year	1995	1996	1997	1998	1999	2000	2001	2002 (Jan-Mar)
Fatal Crashes	3	3	2	3	5	8	12	3
Fatalities	5	3	5	3	6	9	18	5

## Conclusions

The operational analysis reveals that two of the five segments and six of the fourteen analyzed intersections along Krome Ave operate at an undesirable Level of Service. The safety analysis demonstrates that Krome Avenue has a higher crash rate, compared to the statewide average, than other roadways with the same characteristics.



MP 14.275

OKEECHOBEE RD  
(US 27)

25

### FATAL CRASH RATE

MODERATE:  $< 3.0$

CRITICAL:  $> 3$  AND  $< 6$

EXTREME:  $\geq 6$

### SAFETY RATIO

ABOVE AVERAGE:  $\geq 1.0$  and  $< 1.2$

CRITICAL:  $> 1.2$  AND  $< 1.5$

EXTREME:  $\geq 1.5$

90 TAMiami TRAIL  
(SW 8TH ST)

MP 0.000

MP 22.430

95 KENDALL DR  
(SW 88TH ST)

MP 17.431

EUREKA DR  
(SW 184TH ST)

MP 10.896

SILVER PALM DR  
(SW 232ND ST)

MP 7.879

AVOCADO DR  
(SW 296TH ST)

MP 3.827

### LEGEND

- MODERATE
- CRITICAL
- EXTREME

NOTE: FATAL CRASH RATE IS THE NUMBER OF  
FATAL CRASHES PER 100 MILLION VEHICLE MILES

## SAFETY ANALYSIS

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
JULY 2002

FIGURE  
**E-3**



4533KROME (CRASHMAP)



## Introduction

The purpose of this study is to perform a detailed Level of Service and safety analysis for the SR 997/Krome Avenue (177<sup>th</sup> Avenue) corridor. The southern limit of the study area is Avocado Drive/SW 296<sup>th</sup> Street at MP 3.827 in Section 87; subsection 150000 (where the Homestead/Florida City improvement project begins). The northern limit of the study area is US 27 – Okeechobee Blvd at MP 14.275 in Section 87; subsection 070000. The study corridor is highlighted in Figure 1.

The study is not intended to examine any non-motorized travel components, nor is it intended to examine any land-use implications within the corridor. The study is simply for the purpose of determining the existing traffic operating conditions within the corridor, using the highest Level of traffic operations analysis that is currently available to the Department. The outcome of this work will be the identification of existing Level of Service on SR 997/Krome Avenue.

Classification counts and turning movement counts were collected so that traffic characteristics (D, K, PHF, and truck percentages) could be documented. Crash data for the years 1995 to 2000 were examined. A Level of Service analysis was performed for all of the signalized and some major unsignalized intersections using the Highway Capacity Software package. The operational analysis methodologies are based upon the Year 2000 Highway Capacity Manual. Travel time runs were also performed to compare with the travel times predicted using the HCS-Arterials software.

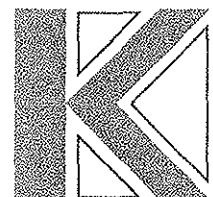


Figure 1: Site Vicinity



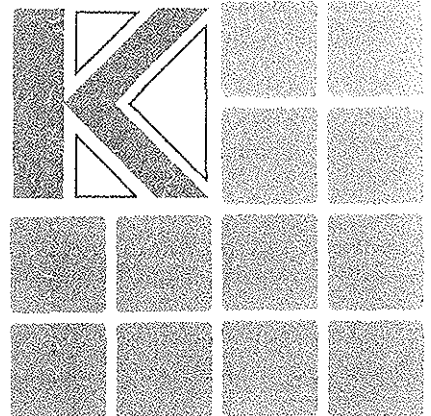
## **Section 1**

### Introduction



## **Section 2**

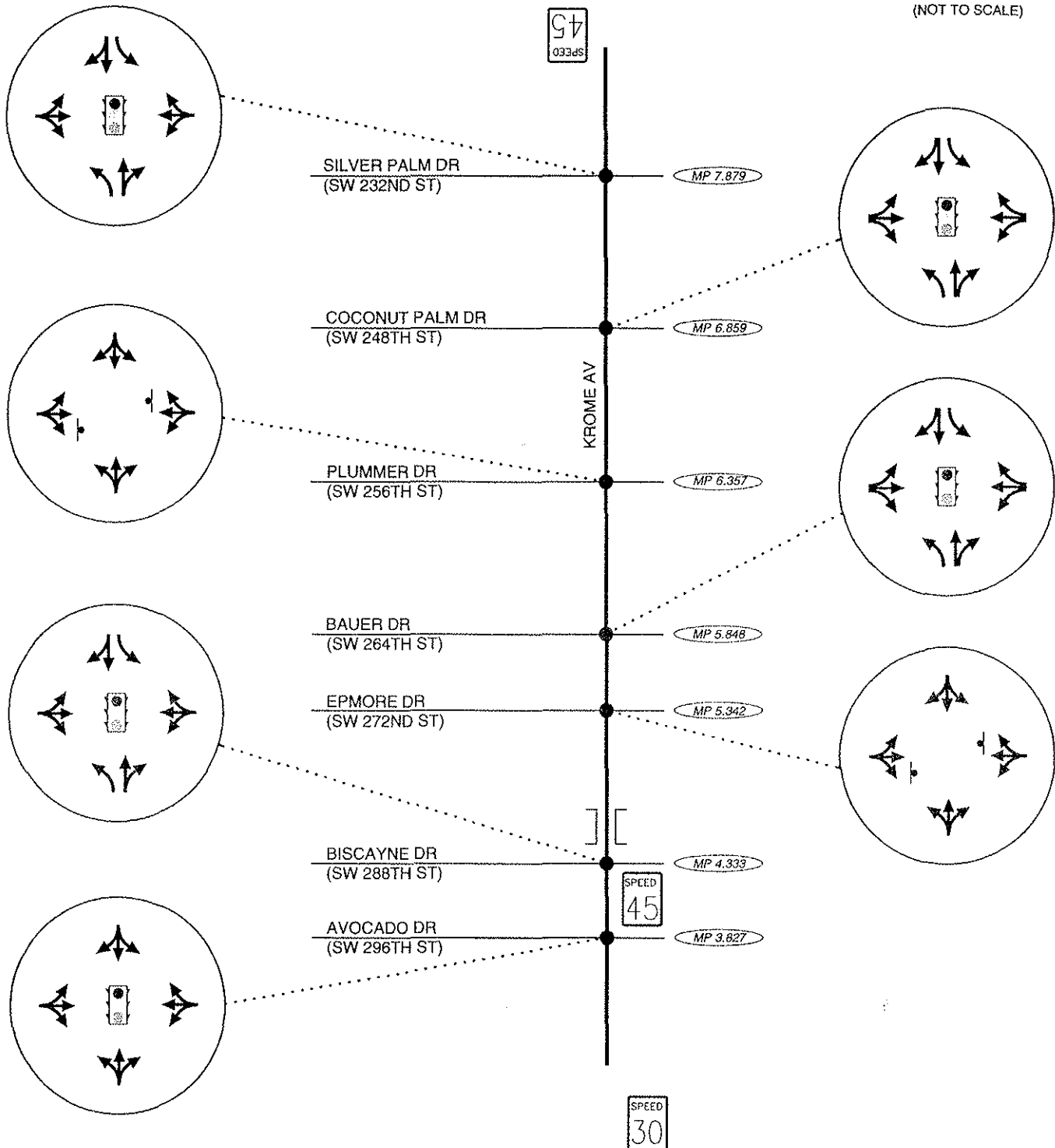
### Roadway Inventory



## Roadway Inventory

A field review was conducted during the a.m. peak period to assess traffic operations along the corridor within the project limits. The review indicated that the a.m. period experienced poorer traffic conditions and more traffic congestion.

Figures 2A-E show the existing lane configurations and traffic control devices along the entire route. Posted speed limit signs are noted. The field inventory identified roadway lane geometry, posted speed limit, traffic control devices and selected roadway or roadside elements that contribute most to arterial and intersection operations. Pavement conditions and the adequacy of roadway lighting were not inventoried. Details of the roadway inventory can be found in the data document for this project.



**LEGEND**

	STOP SIGN		SPEED LIMIT
	TRAFFIC SIGNAL		BRIDGE
RAILROAD CROSSING			

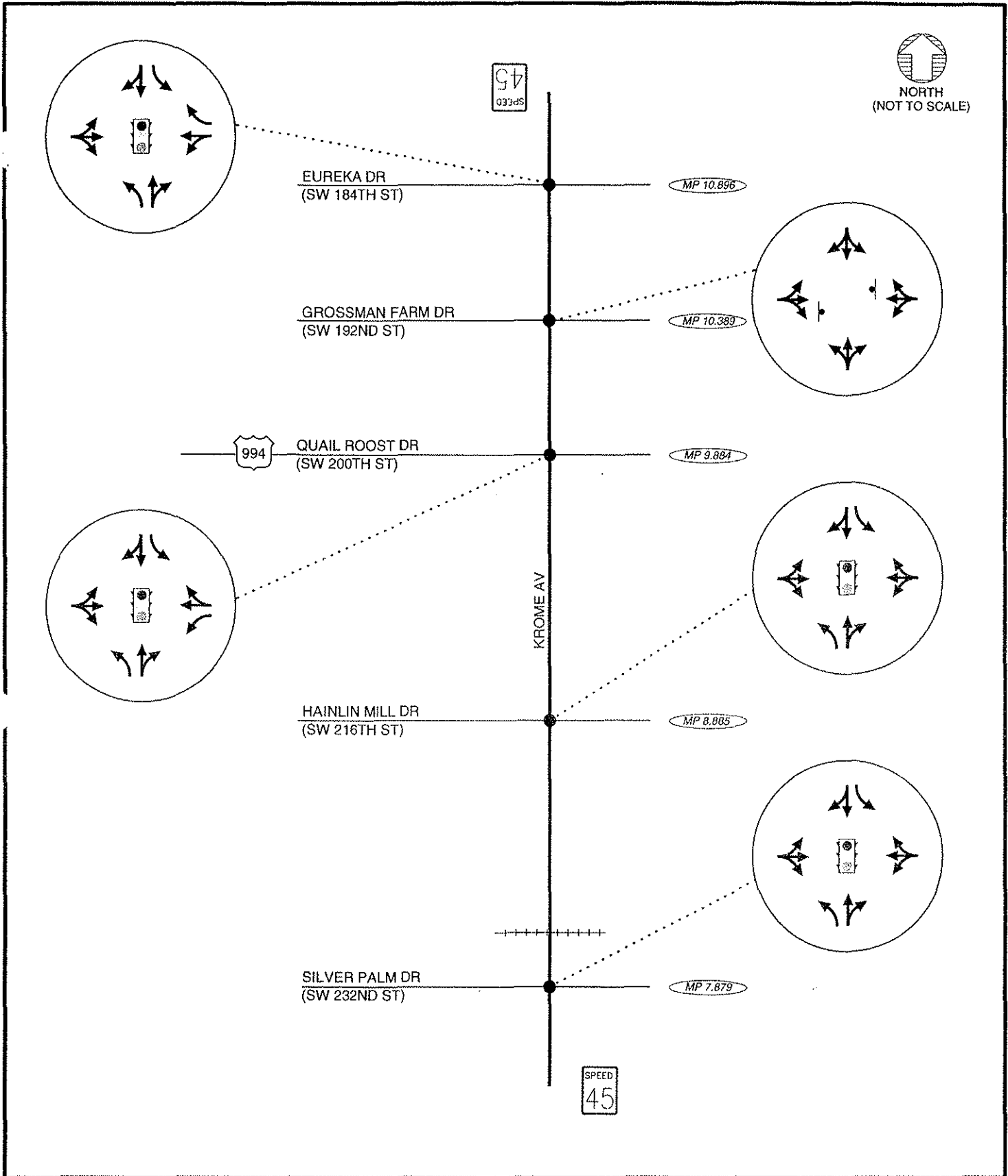
## EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL DEVICES

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE  
**2A**







LEGEND		
	STOP SIGN	SPEED LIMIT
	TRAFFIC SIGNAL	BRIDGE
	RAILROAD CROSSING	

## EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL DEVICES

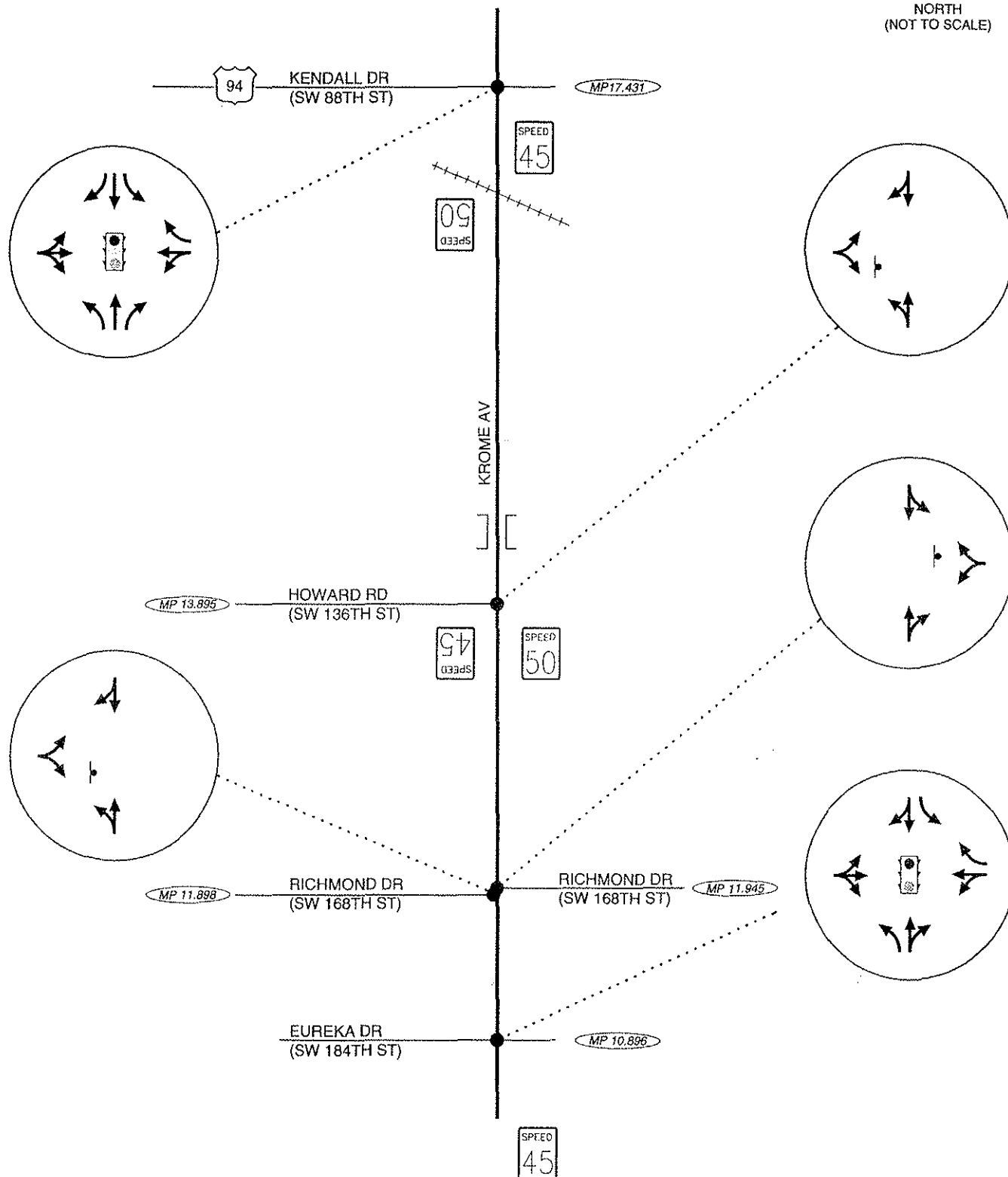
KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE

2B



4533FIG (LANE)



# LEGEND

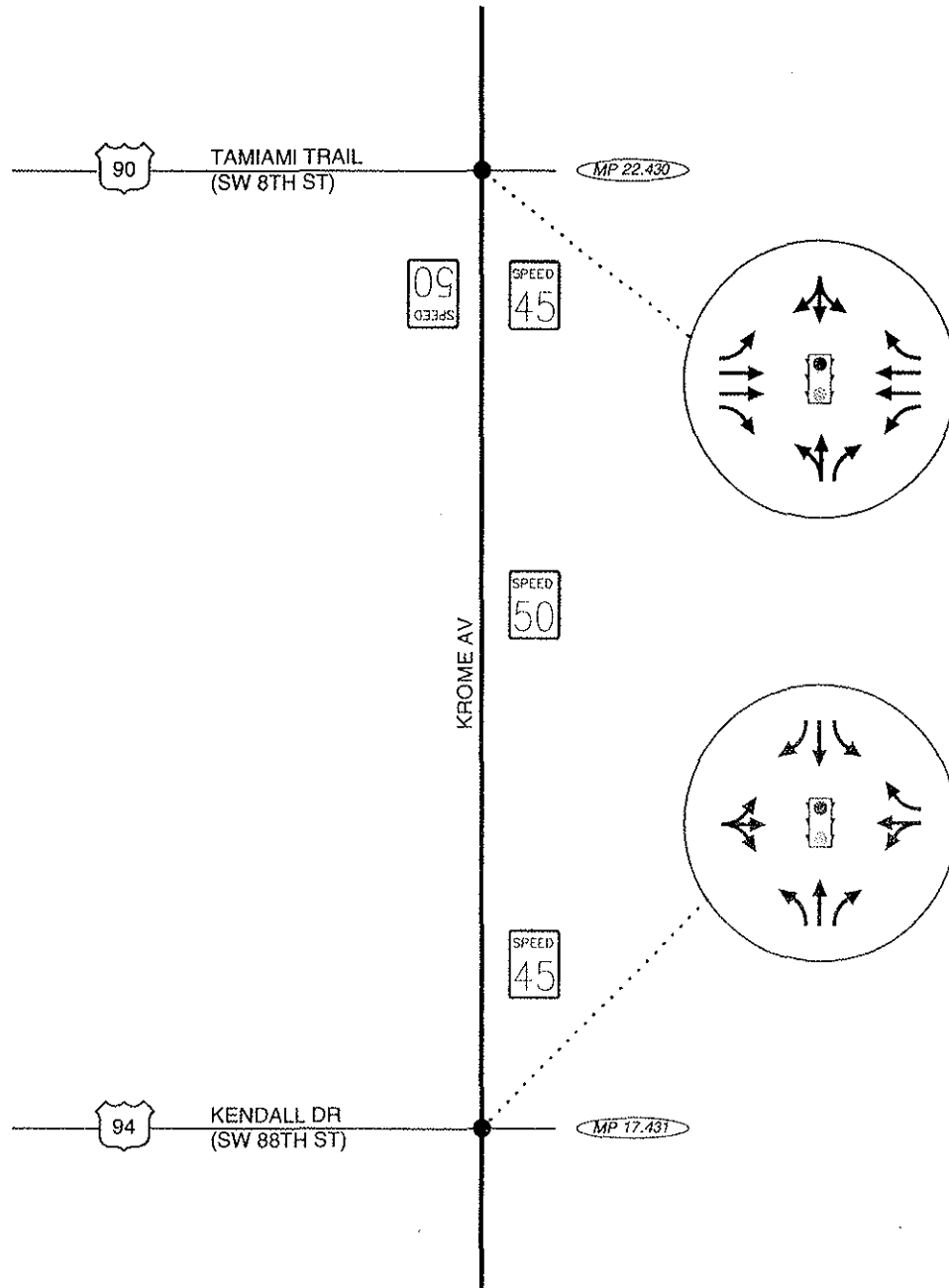
- STOP SIGN
- TRAFFIC SIGNAL
- SPEED LIMIT
- BRIDGE
- RAILROAD CROSSING

## EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL DEVICES






KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE  
2C





#### LEGEND

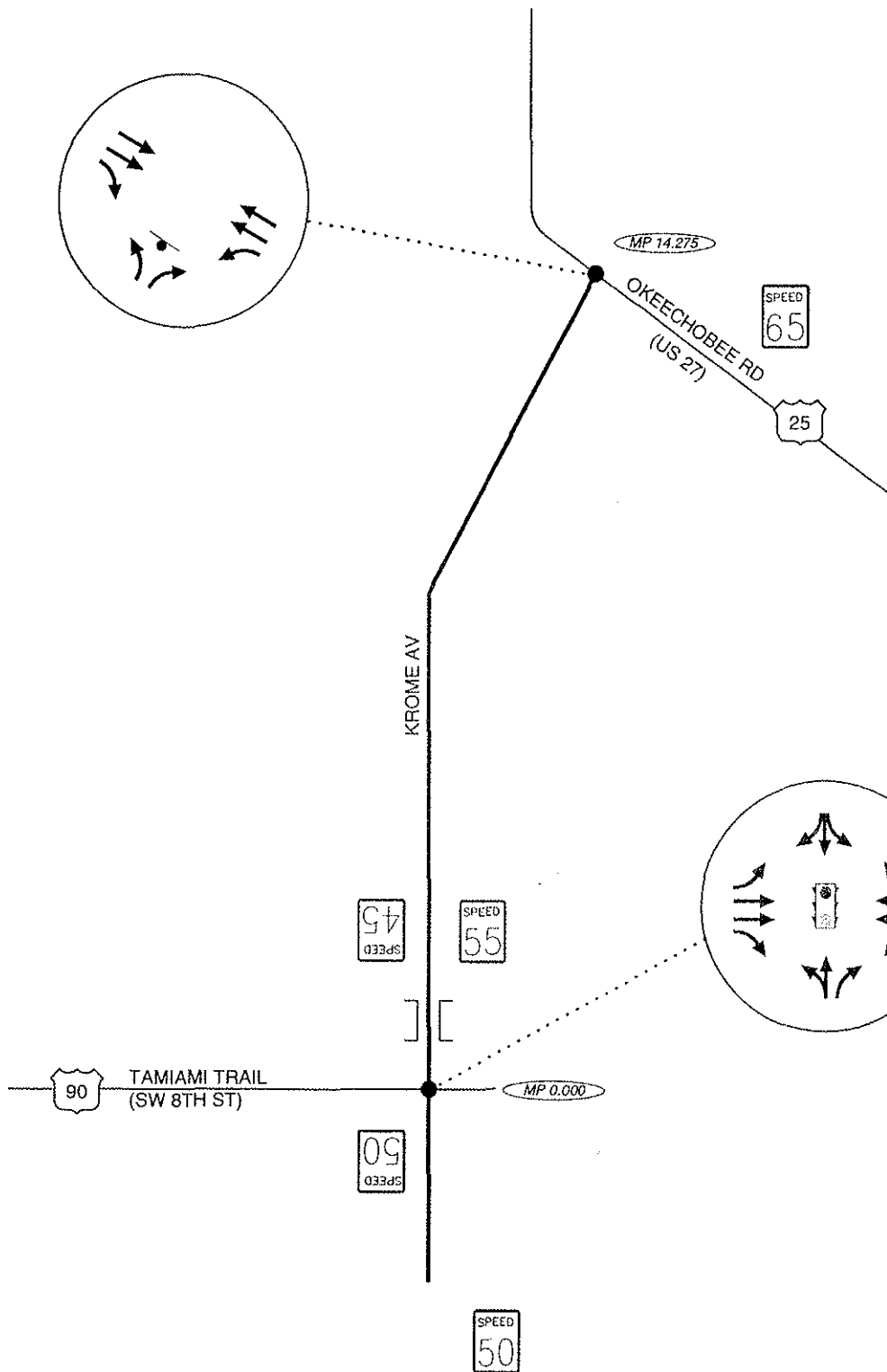
-  STOP SIGN
-  TRAFFIC SIGNAL
-  RAILROAD CROSSING
-  SPEED LIMIT
-  BRIDGE

## EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL DEVICES






KROME AVENUE - EXISTING LOS ANALYSIS  
 MIAMI, FLORIDA  
 AUGUST 2002

FIGURE  
**2D**





#### LEGEND

-  STOP SIGN
-  TRAFFIC SIGNAL
-  RAILROAD CROSSING
-  SPEED LIMIT
-  BRIDGE

## EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL DEVICES

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE

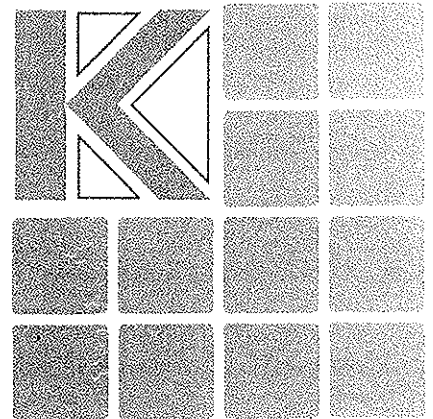
2E



4533FIG (LANE)

## **Section 3**

### Traffic Counts



## Traffic Counts

Three-day 24-hour continuous counts were collected along Krome Avenue within the study area. The study area was divided into five segments as listed below:

- SW 296<sup>th</sup> Street (Avocado Drive) to SW 232<sup>nd</sup> Street (Silver Palm Drive) – 4.052 miles
- SW 232<sup>nd</sup> Street (Silver Palm Drive) to SW 184<sup>th</sup> Street (Eureka Drive) – 3.017 miles
- SW 184<sup>th</sup> Street (Eureka Drive) to SW 88<sup>th</sup> Street (Kendall Drive) – 6.535 miles
- SW 88<sup>th</sup> Street (Kendall Drive) to SW 8<sup>th</sup> Street (Tamiami Trail) – 4.999 miles
- SW 8<sup>th</sup> Street (Tamiami Trail) to US 27 (Okeechobee Road) – 14.275 miles

The locations and dates are listed below:

- 200 ft north of SW 248<sup>th</sup> Street – Tuesday March 12<sup>th</sup> to Thursday March 14<sup>th</sup>, 2002
- 200 ft north of SW 232<sup>nd</sup> Street – Tuesday March 12<sup>th</sup> to Thursday March 14<sup>th</sup>, 2002
- 200 ft south of Kendall Drive – Wednesday March 12<sup>th</sup>, Thursday March 14<sup>th</sup>, and Tuesday March 26<sup>th</sup>, 2002
- 200 ft south of Tamiami Trail – Tuesday March 12<sup>th</sup> to Thursday March 14<sup>th</sup>, 2002
- 1000 ft north of Tamiami Trail – Tuesday March 12<sup>th</sup>, Wednesday March 13<sup>th</sup>, and Thursday April 4<sup>th</sup>, 2002.

These counts are included in the Data Document. Annual Daily Traffic counts for the last seven years (1995-2001) were also gathered and presented in Table 1.

Table 1: Average Daily Traffic for the years 1995 to 2001

Segment Limit	Average Daily Traffic (ADT)						
	1995*	1996*	1997*	1998*	1999*	2000*	2001**
Avocado Drive (SW 296 <sup>th</sup> Street) to Silver Palm Drive (SW 232 <sup>nd</sup> Street)	7,900	7,700	10,700	10,900	12,000	13,500	14,100
Silver Palm Drive (SW 232 <sup>nd</sup> Street) to Eureka Drive (SW 184 <sup>th</sup> Street)	8,500	8,400	10,900	10,900	12,500	15,100	14,600
Eureka Drive (SW 184 <sup>th</sup> Street) to Kendall Drive (SW 88 <sup>th</sup> Street)	9,000	8,500	10,700	11,400	10,900	11,500	14,500
Kendall Drive (SW 88 <sup>th</sup> Street) to Tamiami Trail (SW 8 <sup>th</sup> Street)	6,500	8,400	10,700	11,400	13,300	16,400	14,800
Tamiami Trail (SW 8 <sup>th</sup> Street) to US 27 (Okeechobee Rd)	6,900	5,500	6,700	7,200	7,600	8,300	9,000

\* 1995-2000 ADT: from Year 2000 Florida Traffic CD

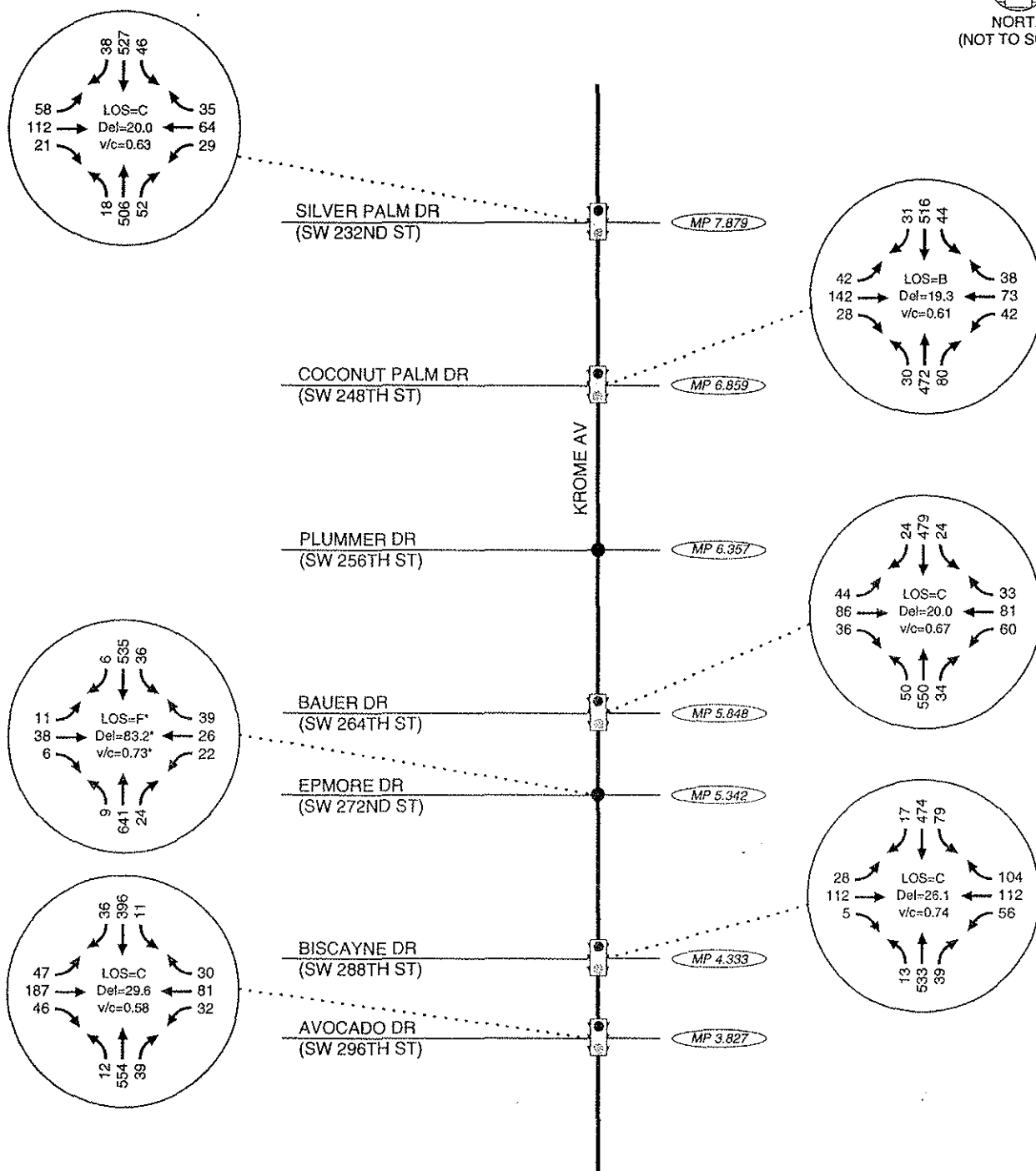
\*\* 2001 ADT: provided by FDOT

A comparison of traffic volumes between a.m. and p.m. peak hour periods was conducted based on the three-day 24-hour continuous link counts collected along Krome Avenue within the study area. As shown on Table 2, the total volumes occurring during the a.m. and p.m. time periods are similar. A field review and roadway inventory was also conducted along the study corridor and at the key intersections. The field review indicated that the a.m. period experienced poorer traffic conditions and more traffic congestion. Thus, the peak hour in the a.m. was emphasized in the intersection inventory, operational analysis, and travel time and delay analysis in this project. The traffic factors, such as  $K_{100}$  factor and D factor, were developed by analyzing a.m., p.m., and daily conditions

**Table 2: Morning and Afternoon Peak Hour Two-Way Volume Comparison<sup>7</sup>**

Segment Limit		Date	Morning Peak Hour		Afternoon Peak Hour	
From	To		7 a.m.-8 a.m.	8 a.m.-9 a.m.	4 p.m.-5 p.m.	5 p.m.-6 p.m.
Avocado Drive (SW 296 <sup>th</sup> Street)	Silver Palm Drive (SW 232 <sup>nd</sup> Street)	Tue 03/12/02	949	864	929	975
		Wed 03/13/02	968	851	949	1047
		Thu 03/14/02	990	892	970	1066
Silver Palm Drive (SW 232 <sup>nd</sup> Street)	Eureka Drive (SW 184 <sup>th</sup> Street)	Tue 03/12/02	1007	979	997	1050
		Wed 03/13/02	1037	914	1028	1162
		Thu 03/14/02	1002	953	1027	1141
Eureka Drive (SW 184 <sup>th</sup> Street)	Kendall Drive (SW 88 <sup>th</sup> Street)	Tue 03/26/02	1125	906	1068	1032
		Wed 03/13/02	1214	1017	1048	1130
		Thu 03/14/02	1233	995	1068	1063
Kendall Drive (SW 88 <sup>th</sup> Street)	Tamiami Trail (SW 8 <sup>th</sup> Street)	Tue 03/12/02	1322	1106	1067	1221
		Wed 03/13/02	1324	1125	1130	1199
		Thu 03/14/02	1293	1045	1135	1088
Tamiami Trail (SW 8 <sup>th</sup> Street)	US 27 (Okeechobee Rd)	Tue 03/12/02	927	882	726	884
		Wed 03/13/02	813	765	781	964
		Thu 04/04/02	977	783	1000	934

The turning movement counts were collected for 10 signalized intersections and four unsignalized intersections within the study area. The four unsignalized intersections are Epmore Drive (SW 264<sup>th</sup> Street), Grossman Farm Drive (SW 192<sup>nd</sup> Street), Howard Road (SW 136<sup>th</sup> Street), and US 27 (SR 25). These four unsignalized intersections were chosen for analysis because field observations revealed possible operation problems and/or these intersections were identified as high crash locations. The counts were conducted on March 26<sup>th</sup> and 27<sup>th</sup>, 2002 during the morning peaks hours (7-9 a.m.). The peak hour turning movement counts are presented in Figures 3A-E.



\* FOR CRITICAL MOVEMENT - WESTBOUND

## EXISTING TURNING MOVEMENT COUNTS AND AM PEAK INTERSECTION LEVEL OF SERVICE

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE  
**3A**

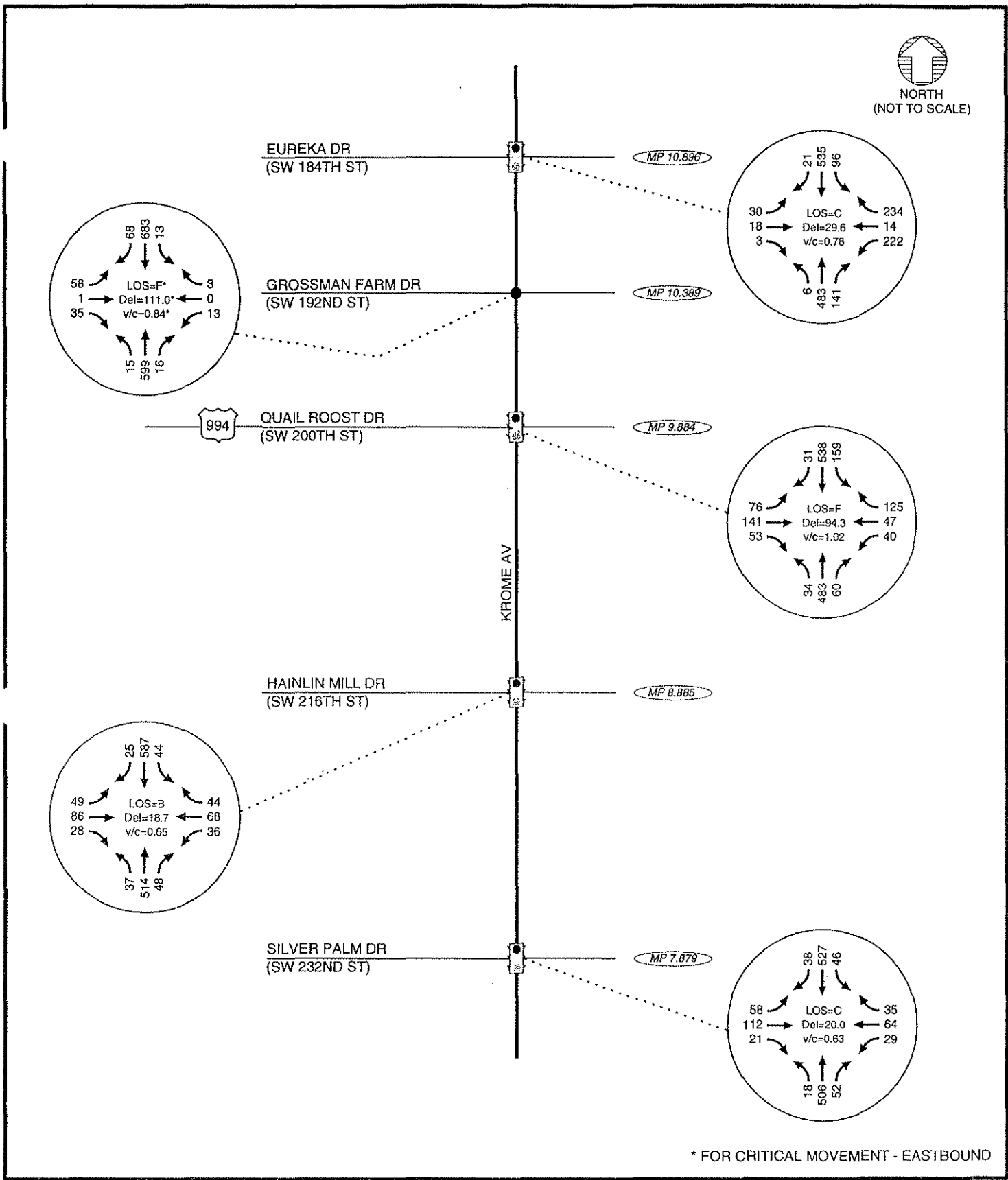


4533FIG (LOS)

### LEGEND

LOS = INTERSECTION LEVEL OF SERVICE  
Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
CRITICAL MOVEMENT DELAY (UNSIGNALIZED)  
v/c = CRITICAL VOLUME-TO-CAPACITY RATIO





**LEGEND**

LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
 CRITICAL MOVEMENT DELAY (UNSIGNALIZED)  
 v/c = CRITICAL VOLUME-TO-CAPACITY RATIO

**EXISTING TURNING MOVEMENT COUNTS AND  
 AM PEAK INTERSECTION LEVEL OF SERVICE**

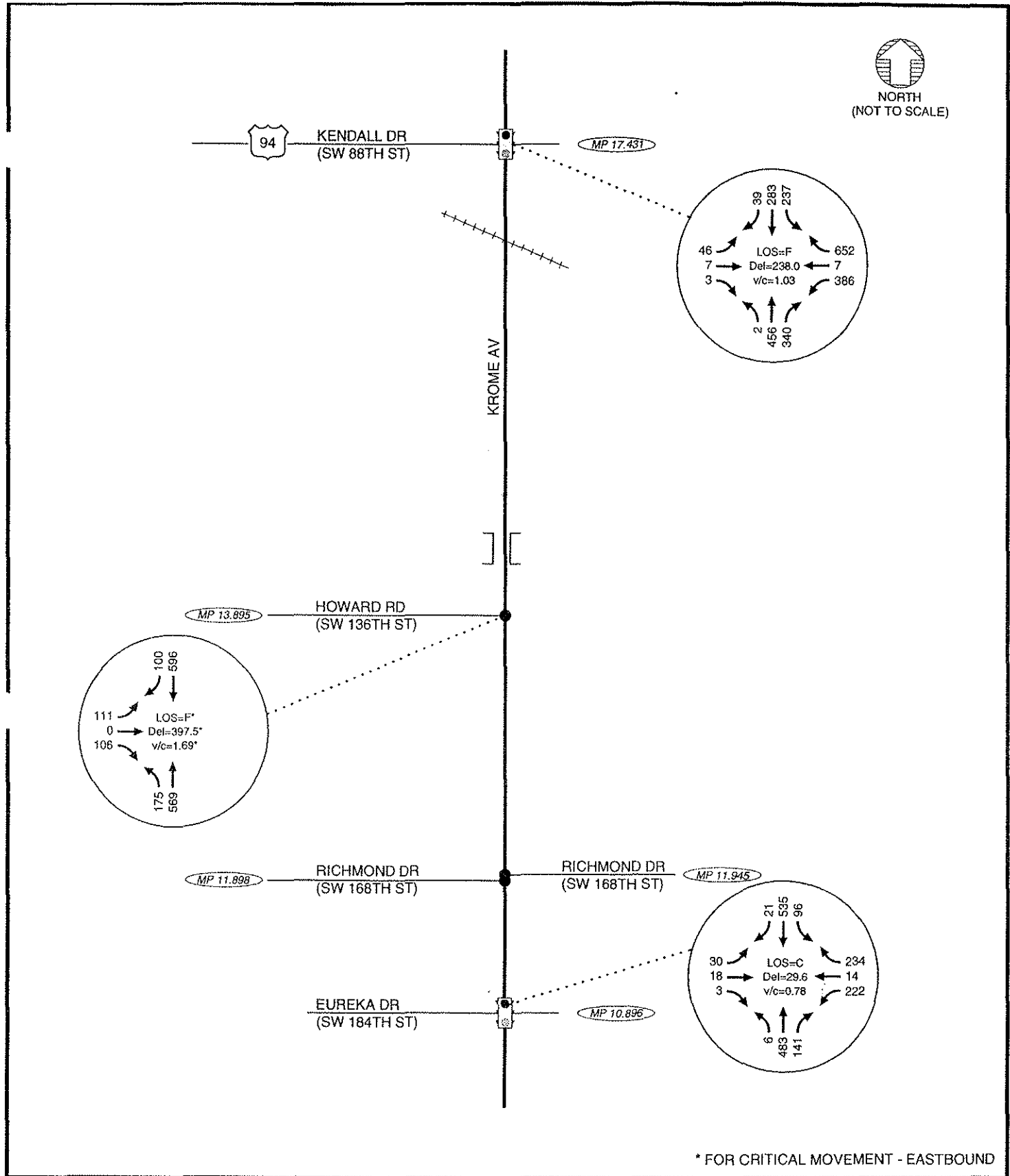
**KROME AVENUE - EXISTING LOS ANALYSIS**  
 MIAMI, FLORIDA  
 AUGUST 2002

FIGURE

**3B**



4533FIG (LOS)



## EXISTING TURNING MOVEMENT COUNTS AND AM PEAK INTERSECTION LEVEL OF SERVICE

KROME AVENUE - EXISTING LOS ANALYSIS  
 MIAMI, FLORIDA  
 AUGUST 2002

FIGURE

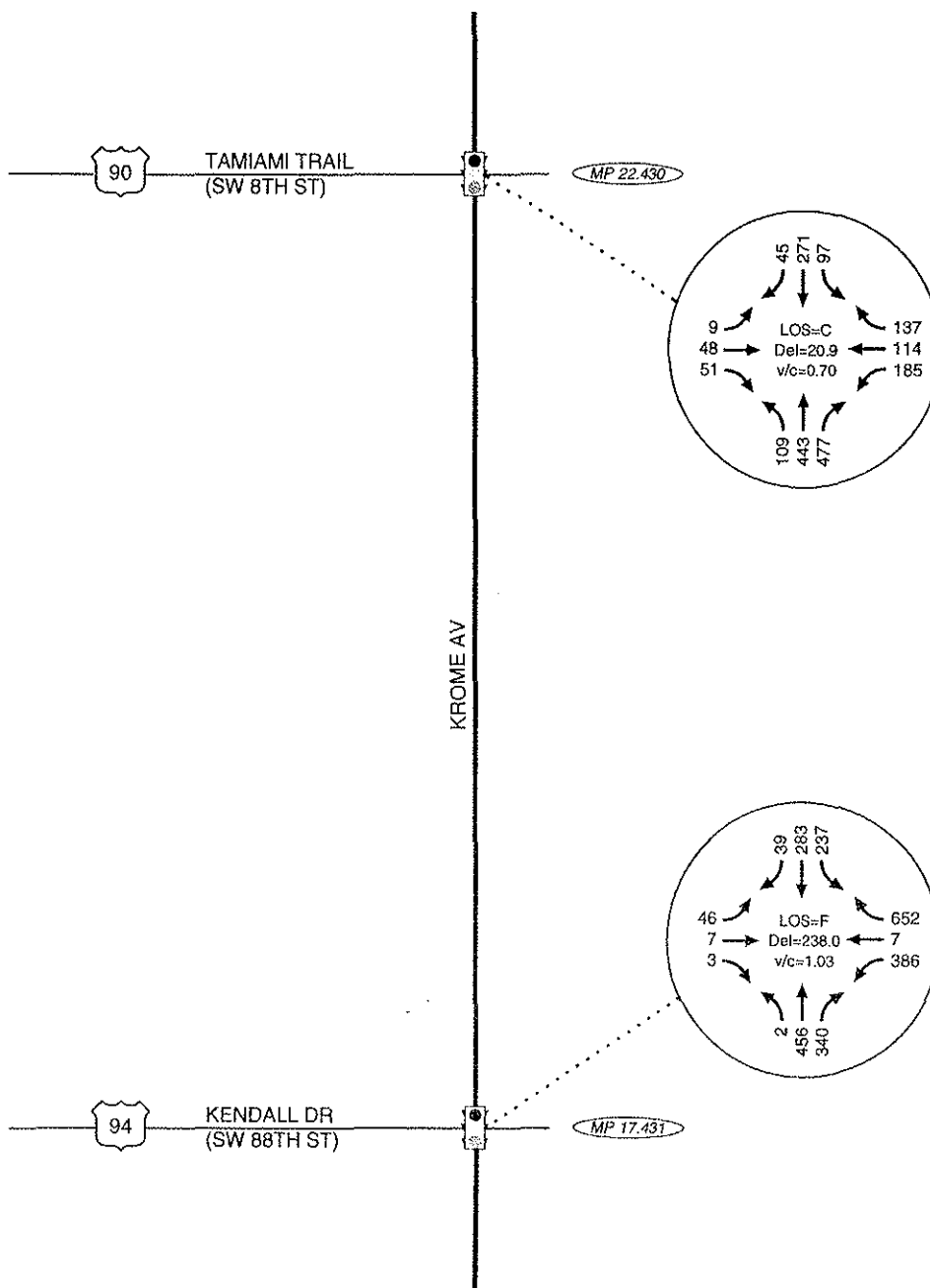
3C



4533FIG (LOS)

### LEGEND

LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
 CRITICAL MOVEMENT DELAY (UNSIGNALIZED)  
 v/c = CRITICAL VOLUME-TO-CAPACITY RATIO



# EXISTING TURNING MOVEMENT COUNTS AND AM PEAK INTERSECTION LEVEL OF SERVICE

KROME AVENUE - EXISTING LOS ANALYSIS  
 MIAMI, FLORIDA  
 AUGUST 2002

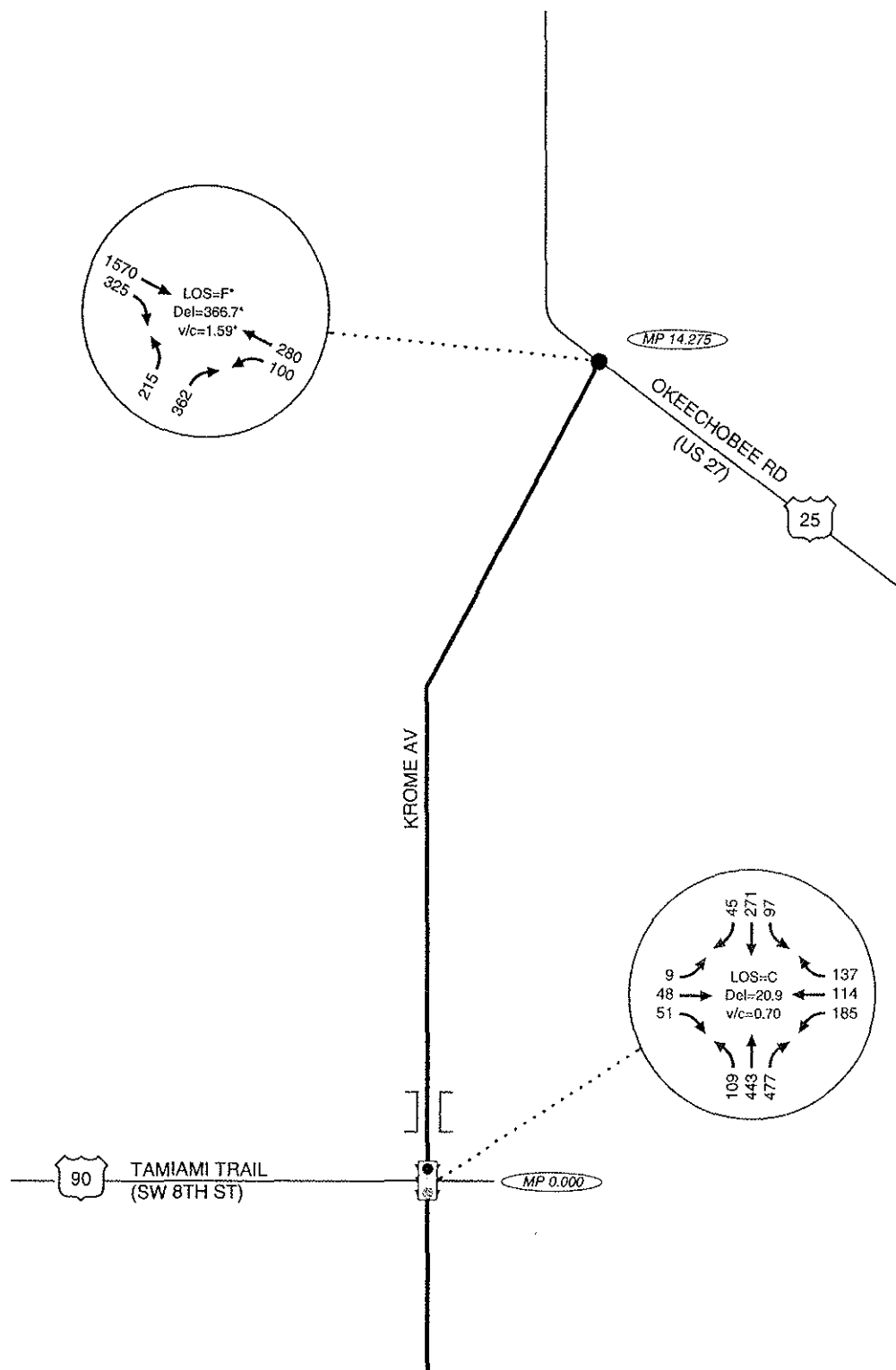
FIGURE  
**3D**



4533FIG (LOS)

## LEGEND

LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
 CRITICAL MOVEMENT DELAY (UNSIGNALIZED)  
 v/c = CRITICAL VOLUME-TO-CAPACITY RATIO



\* FOR CRITICAL MOVEMENT - NORTHBOUND LEFT

#### LEGEND

LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
 CRITICAL MOVEMENT DELAY (UNSIGNALIZED)  
 v/c = CRITICAL VOLUME-TO-CAPACITY RATIO

## EXISTING TURNING MOVEMENT COUNTS AND AM PEAK INTERSECTION LEVEL OF SERVICE

KROME AVENUE - EXISTING LOS ANALYSIS  
 MIAMI, FLORIDA  
 AUGUST 2002

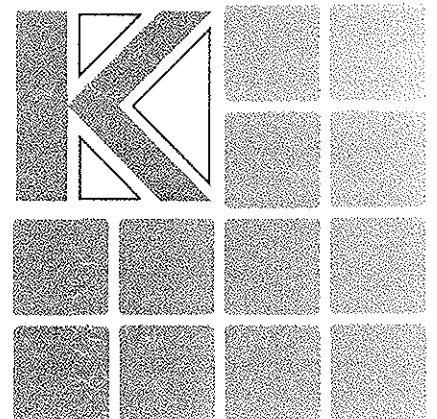
FIGURE  
**3E**



4533FIG (LOS)

## **Section 4**

### **Traffic Characteristics**



## Traffic Characteristics

Traffic characteristic factors, such as Directional distribution factor (D), planning analysis hour factor (K), and percent heavy vehicles (T), are calculated for the five study segments along Krome Avenue. The calculation of the traffic factors are based upon the 2002 Quality/Level of Service Handbook (*Reference 1*) by using the traffic data collected from the field. The purpose of obtaining the traffic factors is to identify the traffic characteristics of the studied segments. These variables have a significant impact on the calculated volumes in a LOS analysis along an arterial. These variables could also be applied for generalized planning in future analysis. Generalized planning makes extensive use of statewide default values and is intended for broad applications such as statewide analyses, initial problem identification, and future year analyses.

### Directional Distribution Factor (D)

The directional distribution factor (D) is the percentage of total, two-way peak hour traffic occurring in the peak direction. A "D" factor is used to identify traffic patterns in an area and is affected by factors such as surrounding land use and roadway capacity (*Reference 1*).

For a conceptual planning analysis, FDOT recommends calculating roadway specific "D" factors since it is a more local and accurate reflection of conditions in the study area. A "D" factor can be estimated from 3-day field counts. The summary of D factors for segments on Krome Avenue is shown in Table 3.

Table 3: Summary of Directional Distribution Factor (D)

Segment Limit		Average D-factor (from field data)	
From	To	7 - 9 AM	4 - 6 PM
Avocado Drive (SW 296 <sup>th</sup> Street)	Silver Palm Drive (SW 232 <sup>nd</sup> Street)	0.535 (NB)	0.546 (SB)
Silver Palm Drive (SW 232 <sup>nd</sup> Street)	Eureka Drive (SW 184 <sup>th</sup> Street)	0.508 (NB)	0.512 (SB)
Eureka Drive (SW 184 <sup>th</sup> Street)	Kendall Drive (SW 88 <sup>th</sup> Street)	0.594 (NB)	0.522 (SB)
Kendall Drive (SW 88 <sup>th</sup> Street)	Tamiami Trail (SW 8 <sup>th</sup> Street)	0.667 (NB)	0.550 (SB)
Tamiami Trail (SW 8 <sup>th</sup> Street)	US 27 (Okeechobee Rd)	0.576 (NB)	0.565 (SB)

### Planning Analysis Hour Factor (K)

The Planning Analysis Hour Factor, "K<sub>100</sub>" Factor, is the ratio of the traffic volume in the study hour to the annual average daily traffic (AADT). For planning purposes, the primary planning analysis hour factor used in Florida is the K<sub>100</sub>, which is the ratio for the 100<sup>th</sup> highest traffic volume hour of the year to the AADT (*Reference 1*). The K<sub>100</sub> is used to convert a peak hour volume to an AADT and vice-versa.

The estimation of  $K_{100}$  for other segments on Krome Avenue is summarized in Table 4. The study corridor from SW 296<sup>th</sup> Street to SW 8<sup>th</sup> Street is within South Miami Dade County. The MOCF for South Miami Dade County is 0.99.

Table 4: Summary of  $K_{100}$ -Factor

Segment Limit		$K_{100}$ -factor (from field data)	
From	To	Peak to Daily Ratio	K100-factor
Avocado Drive (SW 296 <sup>th</sup> Street)	Silver Palm Drive (SW 232 <sup>nd</sup> Street)	0.075	0.076
Silver Palm Drive (SW 232 <sup>nd</sup> Street)	Eureka Drive (SW 184 <sup>th</sup> Street)	0.076	0.077
Eureka Drive (SW 184 <sup>th</sup> Street)	Kendall Drive (SW 88 <sup>th</sup> Street)	0.082	0.082
Kendall Drive (SW 88 <sup>th</sup> Street)	Tamiami Trail (SW 8 <sup>th</sup> Street)	0.085	0.086
Tamiami Trail (SW 8 <sup>th</sup> Street)	US 27 (Okeechobee Rd)	0.098	0.100

The minimum acceptable " $K_{100}$ " factor for FDOT is 9.0% for Two-Lane Highways in Rural Developed areas. Most of the " $K_{100}$ " factors of segments on Krome Avenue are below the FDOT minimum " $K_{100}$ " factor. Since peak hour volume is used for the analysis, there is no need to increase the " $K_{100}$ " factor to the minimum acceptable value for each roadway segment. The minimum 9% " $K_{100}$ " factor is suggested for future analysis such as calculations of Design Hour Volume.

#### Percentage of Trucks (T)

The T-factor is a Federal Highway Administration (FHWA) vehicle classification scheme, in which vehicles with more than four wheels (or classification group 4 or higher) are considered heavy vehicles (*Reference 1*). The percentage of these heavy vehicles in a given hour is frequently referred to as a truck factor (T). Truck factor (T) is defined as the percentage of truck traffic measured during the analysis period. The following combined directional truck factors were calculated based on a.m. peak hour vehicle classification counts and daily peak hour vehicle classification counts. Buses are considered heavy vehicles. As an example, the calculation of morning peak hour "T" factor and the daily "T" factor for the segment from SW 8<sup>th</sup> Street/ Tamiami Trail to US 27/Okeechobee RD is shown in Table 5 and Table 6, respectively.

The morning peak hour truck factor is a function of the total number of trucks divided by the total volume. It is not the simple average of the truck factors (shown under column "AM Peak Hour Truck Percentage") for each day listed above.



**Table 5: Morning Peak Hour Percentage of Trucks for the Segment SW 8<sup>th</sup> Street/Tamiami Trail to US 27/Okeechobee Rd**

Date	Morning Peak Hour	Number of Trucks	Peak Hour Volume	Morning Peak Hour Truck Percentage
03/12/02 Tuesday	7 - 8 a.m.	184	927	0.198
03/13/02 Wednesday	7 - 8 a.m.	173	813	0.213
04/04/02 Thursday	7 - 8 a.m.	196	977	0.201
<b>Total</b>		<b>553</b>	<b>2717</b>	<b>0.204</b>

AM Peak Hour Truck Percentage =  $553 / 2717 = 0.204$

**Table 6: Daily Percentage of Trucks (T) for the Segment SW 8<sup>th</sup> Street/Tamiami Trail to US 27/Okeechobee RD**

Date	Number of Trucks	Daily Volume	Daily Truck Percentage
03/12/02 Tuesday	2618	9767	0.268
03/13/02 Wednesday	2794	9394	0.297
04/04/02 Thursday	2754	10402	0.265
<b>Total</b>	<b>8166</b>	<b>29563</b>	<b>0.276</b>

Daily Truck Percentage =  $8166 / 29563 = 0.276$

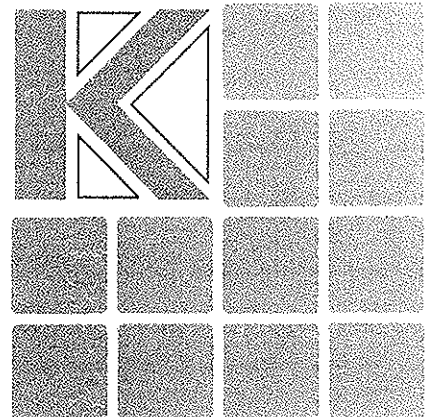
The average daily truck factor is a function of the total number of trucks divided by the total volume. The estimation of morning peak hour "T" factor and daily "T" factor for each segment on Krome Avenue is summarized in Table 7.

**Table 7: Summary of Percentage of Truck (T)**

Segment Limit		Truck Factor (from field data)	
From	To	Morning T-factor	Daily T-factor
Avocado Drive (SW 296 <sup>th</sup> Street)	Silver Palm Drive (SW 232 <sup>nd</sup> Street)	0.281	0.270
Silver Palm Drive (SW 232 <sup>nd</sup> Street)	Eureka Drive (SW 184 <sup>th</sup> Street)	0.314	0.319
Eureka Drive (SW 184 <sup>th</sup> Street)	Kendall Drive (SW 88 <sup>th</sup> Street)	0.260	0.262
Kendall Drive (SW 88 <sup>th</sup> Street)	Tamiami Trail (SW 8 <sup>th</sup> Street)	0.334	0.315
Tamiami Trail (SW 8 <sup>th</sup> Street)	US 27 (Okeechobee Rd)	0.204	0.276

## **Section 5**

### Intersection Inventory



## Intersection Inventory

A field review was conducted during the morning peak period to assess traffic operations at four major intersections of the study corridor. These intersections are:

- Eureka Drive/ SW 184<sup>th</sup> Street
- Kendall Drive/ SW 88<sup>th</sup> Street
- Tamiami Trail/ SW 8<sup>th</sup> Street
- US 27/ Okeechobee Road

The level of detail for the field review is similar to that done in a Traffic Operations "Qualitative Assessment" study. The FDOT Field Observation Report for a Level of Service Study was completed for each intersection. The field study included a physical as well as operational examination of the intersection. The physical examination of the intersection consisted of an inventory of geometry, traffic control devices, sight distance, pedestrian crosswalks, pavement width, horizontal and vertical alignments, etc. The operational examination included observations of unusual traffic flow problems, traffic conflict patterns, excessive vehicle delay, pedestrian or bicycle activities, etc.

### **Krome Avenue/Eureka Drive (SW 184<sup>th</sup> Avenue)**

SR 997/Krome Avenue and SW 184<sup>th</sup> Street/Eureka Drive intersect to form a four-legged intersection. The existing lane configurations and speed limits in the vicinity of the intersection are shown in Figure 2B. Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. SW 184<sup>th</sup> Street consists of one lane on the eastbound approach, while the westbound approach has a right-turn lane as well as a shared through and left-turn lane. The study location is on flat terrain and there are no sight distance restrictions. Figure 4 shows the northbound approach on Krome Avenue to the intersection, and Figure 5 shows the southbound approach to the intersection.

The intersection is also located within a rural developed area. The area to the north of the intersection is vacant and consists of farmlands. A house is located in the southeast quadrant of the intersection and has a driveway on Krome Avenue. A Gas station is located in the southwest quadrant of the intersection, with a driveway on both Krome Avenue as well as Eureka Drive.

Traffic operations were observed at the study intersection on Tuesday, April 2, 2002 from 7:00 to 9:00 a.m. The following is a summary of the observations made in the field:

#### Operational observations:

- No obstructions were identified that blocked the driver's view of opposing vehicles.
- Minor delays were observed and vehicles did not experience any difficulty to progress through the intersection.
- No cycle failures were observed at the intersection.

#### General observations:

- The maximum queue observed on Krome Avenue for the southbound approach was approximately eight vehicles, while up to six vehicles was observed for the northbound approach.
- The maximum queue observed on SW 184<sup>th</sup> Street was six vehicles on the westbound approach, while minimal queues were observed for the eastbound leg.
- A high number of trucks were observed at the intersection. These trucks mainly traveled on Krome Avenue.
- The signal phases and timing at Krome Avenue/Eureka Drive intersection are as follows:

Phase	North-South Left	North-South	East-West
Green	7	51	35
Yellow	3	4	4
Red	0	1	1



Figure 4: Northbound approach at Eureka Drive/SW 184<sup>th</sup> Street

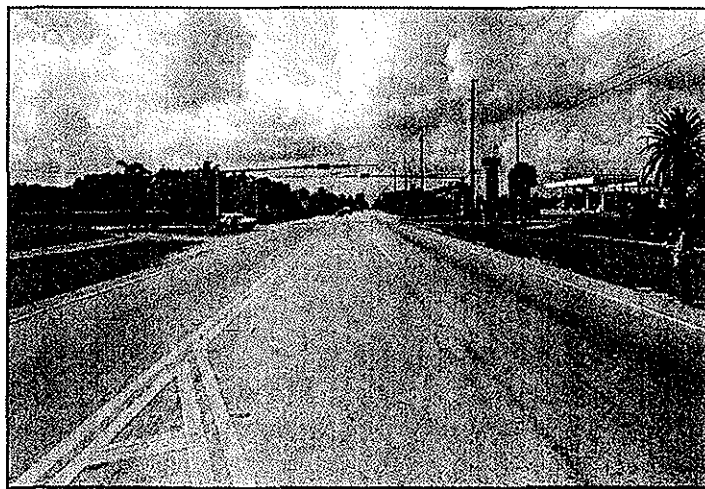


Figure 5: Southbound approach at Eureka Drive/SW 184<sup>th</sup> Street

**Krome Avenue/Kendall Drive (SW 88<sup>th</sup> Avenue)**

SR 997/Krome Avenue and SW 88<sup>th</sup> Street/Kendall Drive intersect to form a four-legged intersection. The existing lane configurations and speed limits in the vicinity of the intersection are shown in Figure 2C. Both the northbound and southbound approaches of Krome Avenue have an exclusive left-turn lane, one through lane, and a right turn lane. The westbound Kendall Drive approach has a left-and-through shared lane plus an exclusive right turn lane, whereas the eastbound approach has one shared lane for left, through, and right turn movements. The study location is on flat terrain and there are no sight distance restrictions. Figure 6 shows the northbound approach on Krome Avenue, and Figure 7 shows the southbound approach to the intersection.

The intersection is also located within a rural developed area. There are no developments at the intersection, and all four quadrants of the intersection are vacant. This area is a transitioning area, which is expected to be fully developed within the next 20 years.

Traffic operations were observed at the study intersection on Tuesday, April 2<sup>nd</sup> 2002 from 7:00 to 9:00 a.m. The following is a summary of the observations made in the field:

## Operational observations:

- No obstructions were identified that blocked the driver's view of opposing vehicles.
- No abnormal traffic operation or driving behavior was observed.

## General observations:

- The maximum queue observed on Krome Avenue was approximately eight vehicles for the northbound through lane.
- The maximum queue observed on the east approach on Kendall Drive was 13 vehicles for the shared through- and left-turn lane and 11 vehicles for the right-turn lane.
- The major movement of traffic was westbound vehicles making a right turn to go north on Kendall Drive.
- A high number of trucks were observed using the intersection, and almost all of the vehicles traveling on the western leg of Kendall Drive were trucks.
- The signal phases and timing at Krome Avenue/Kendall Drive intersection are as follows:

Phase	North-South	South Left	Eastbound	Westbound
Green	50	5-7	7-12	7-20
Yellow	4.3	3	4	4
Red	1	0	1	1

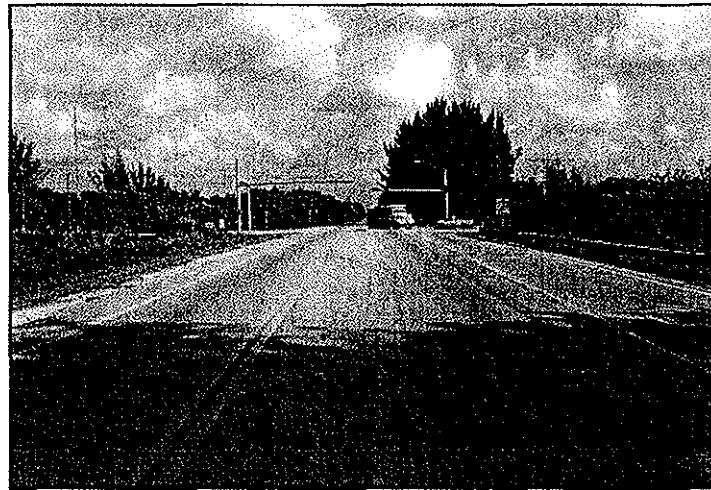


Figure 6: Northbound approach at Kendall Drive/SW 88<sup>th</sup> Street

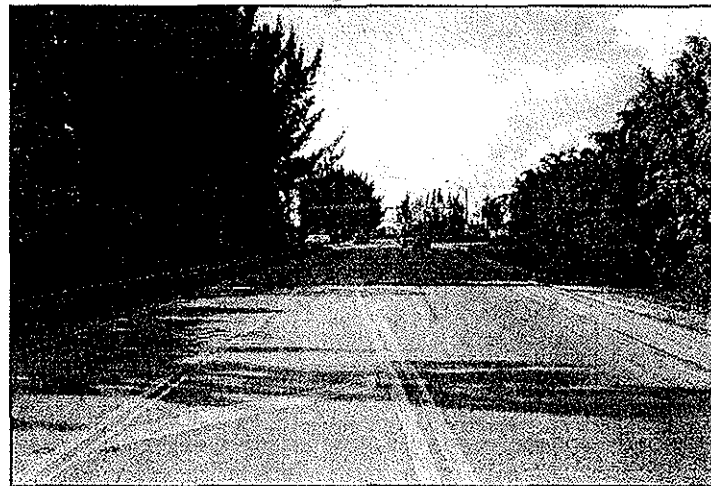


Figure 7: Southbound approach at Kendall Drive/SW 88<sup>th</sup> Street

#### **Krome Avenue/Tamiami Trail (SW 8<sup>th</sup> Avenue)**

SR 997/Krome Avenue and SW 8<sup>th</sup> Street/Tamiami Trail intersect to form a four-legged intersection. The existing lane configurations and speed limits in the vicinity of the intersection are shown in Figure 2D. Krome Avenue has one lane for the southbound approach, whereas the northbound approach consists of a shared through- and left-turn lane. Tamiami Trail consists of two through lanes as well as a left- and right-turn lane at the intersection. The study location is on flat terrain and there are no sight distance restrictions. Figure 8 shows the northbound approach on Krome Avenue, whereas Figure 9 shows the southbound approach to the intersection.

The intersection is located within a rural developed area. A canal runs along the northern side of Tamiami Trail, with a vacant area on both the northwest- and northeast corners of the intersection. A gas station with truck stop is located at the southeast corner of the intersection, with driveways on both Krome Avenue and Tamiami Trail. A tobacco shop is located on the southwest corner of the intersection, with a driveway on Krome Avenue. A truck service center (although slightly offset

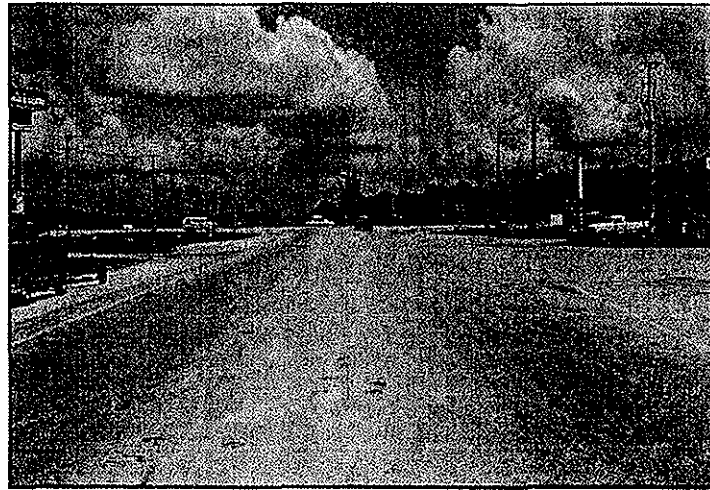


Figure 8: Northbound approach at Tamiami Trail/SW 8<sup>th</sup> Street

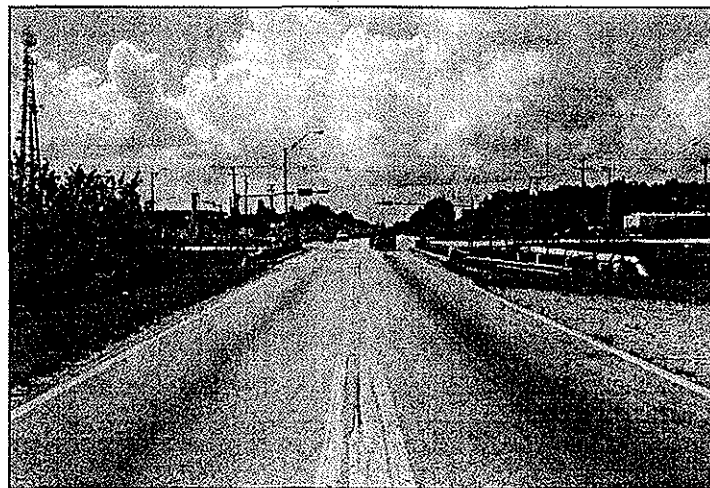


Figure 9: Southbound approach at Tamiami Trail/SW 8<sup>th</sup> Street

from the intersection) is also located on the southwest corner of the intersection, also with a driveway on Krome Avenue.

Traffic operations were observed at the study intersection on Thursday, March 28<sup>th</sup>, 2002 from 7:00 a.m. to 9:00 a.m. The following is a summary of the observations made in the field:

Operational observations:

- No obstructions were identified that blocked the driver's view of opposing vehicles.
- Vehicles traveling northbound waiting to make a left turn frequently occupied the shared left- and through lane. This situation caused the northbound through vehicles to bypass the left-turn vehicles (often large trucks) by using the right turn lane to progress through the intersection. This maneuver created unsafe conditions for both northbound right-turning vehicles as well as southbound left-turning vehicles. The southbound left-turning vehicles are only able to notice these through vehicles while they are performing the left turn at the time the through vehicles accelerate to move around the northbound left turning vehicle.



- Trucks making a right turn from the eastbound and westbound approaches on SW 8<sup>th</sup> Street have to do so from the adjacent through lane in order to successfully enter Krome Avenue. This maneuver caused unsafe conditions at the intersection.
- Vehicles traveling southbound were often delayed by southbound vehicles waiting to make a left turn at the intersection.

General observations:

- The maximum queue observed on Krome Avenue was approximately 21 vehicles for the northbound approach, while up to 29 vehicles was observed for the southbound approach.
- Cycle failures were observed for both approaches on Krome Avenue.
- Minimal queues were observed on Tamiami Trail.
- A high number of trucks were observed at the intersection. These trucks mainly used the driveway on Krome Avenue to access the gas station and truck stop.
- The signal phases and timing at Krome Avenue/Tamiami Trail intersection are as follows:

Phase	North-South	East-West Left	East West
Green	48.5	5	21
Yellow	4	3	5
Red	2	0	1.5

**Krome Avenue/Okeechobee Rd (US27)**

SR 997/Krome Avenue and Okeechobee Rd/US27 intersect to form a three-legged intersection. The existing lane configurations and speed limits in the vicinity of the intersection are shown in Figure 2D. Krome Avenue has a left and right turn lane at the intersection. Okeechobee Rd/US27 consists of two through lanes as well as a left-turn lane for the westbound direction, and a right turn lane for the eastbound direction. The study location is on flat terrain and there are no sight distance restrictions. Figure 10 shows the northbound approach on Krome Avenue to the intersection, while Figure 11 shows the intersection from the north.

The intersection is located within a rural area. All of the quadrants of the intersection are vacant, and trees outline the side of the roadways.

Traffic operations were observed at the study intersection on Tuesday, May 6<sup>th</sup>, 2002 from 7:00 to 9:00 a.m. The following is a summary of the observations made in the field:

Operational observations:

- No obstructions were identified that blocked the driver's view of opposing vehicles.
- Vehicles making a left turn from Krome Avenue onto Okeechobee Road often experienced delay. It frequently happened that a platoon of vehicles with a truck at the front arrived at the intersection. These vehicles were subsequently delayed because of the difficulty the trucks experienced to progress through the intersection.

General observations:

- The maximum queue observed on Krome Avenue for the northbound approach was approximately 14 vehicles.
- A high number of trucks were observed at the intersection.

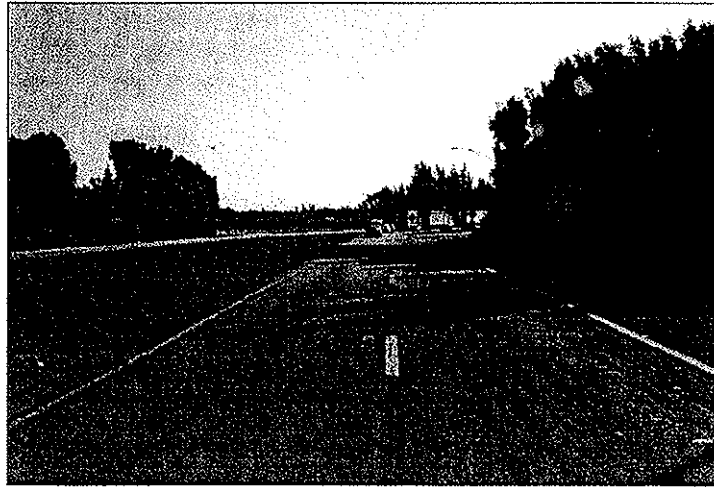


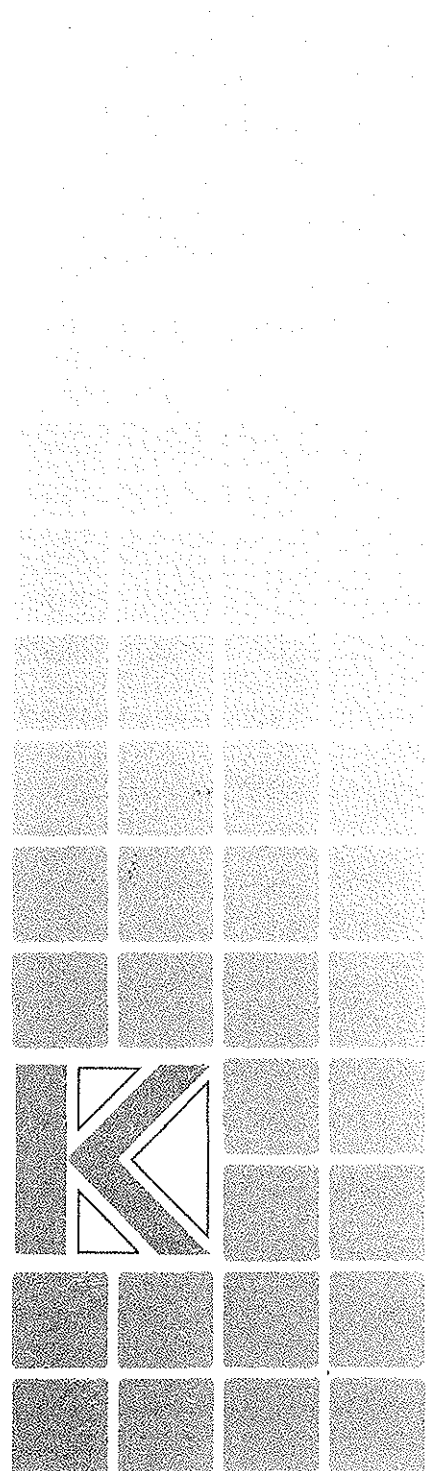
Figure 10: Northbound approach at US 27/Okeechobee Road



Figure 11: View from North at US 27/Okeechobee Road

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**Section 6**  
Travel Time Runs



## Travel Time Runs

A travel time and delay study for Krome Avenue was conducted to evaluate traffic movement along the study corridor and the extent of normal delay caused by traffic control devices and turning vehicles. With the results, the arterial Level-of-Service based on average travel speeds was determined.

Travel time and delay data was collected following the Florida Manual on Uniform Traffic Studies (MUTS) procedures for travel time and delay studies. The data was collected by Kittelson & Associates, Inc. staff during the weekday a.m. peak hour between the dates of April 16<sup>th</sup> and May 7<sup>th</sup>, 2002. Six travel time and delay runs were made in both the northbound and southbound directions between the hours of 7:00 a.m. and 9:00 a.m. between the Krome Avenue/US 27 and Krome Avenue/Avocado Drive intersections. Based on the number of travel time and delay runs and the range in results, the reported average running speeds have a 95 percent confidence level with an error of +/- 1 mph. The field data collection sheets and data summary sheets are presented in the Data Document.

Results for the travel time and delay study are summarized by segment and section. Results for the northbound and southbound directions are reported separately in Table 8 and Table 9, respectively. For each reported segment and section, by direction, the reported data is summarized below.

- **Average Travel Time** is the total elapsed time spent driving a specified distance.
- **Average Travel Speed** is the average speed over a distance (it is effected by the amount of time experienced in delay).
- **Level of Service** reported is based on the Average Travel Speed for Class I Urban Streets and Class I Two-Lane Highways as appropriate.

Segments between Avocado Drive and Eureka Drive were evaluated as Class I Urban Streets based on Exhibits 10-3 and 10-4 of the 2000 Highway Capacity Manual. It should be noted that Section 150 has both Class I Urban Street and Class I Two-Lane Highway segments. Arterial Level-of-Service for Section 150 was therefore summarized in two parts and an arterial Level-of-Service could not be provided for the whole corridor in its entirety.

Class I Urban Streets function as principal arterials and have high-speed designs meaning signal spacing ranges from 0.5-2 signals per mile, speed limits are in the 45-55 mph range, there is very little pedestrian activity, and low density roadside development. Class I Two-Lane Highways are two-lane highways on which motorists expect to travel at relatively high speeds and most often serve long-distance trips or provide connecting links between facilities that serve long-distance trips (see 12-12 of the 2000 HCM).

- **Delay** is the elapsed time spent driving at a speed less than 5 mph.

The only delay observed during the study was delay caused by stop signs (Krome Avenue northbound at US 27), traffic signals, and left-turning vehicles. The delay study was not affected by any accidents or construction during the data collection times.

- **Average Running Speed** is the average speed while the vehicle is in motion (does not include delay time).
- **Running Time** is the elapsed travel time, excluding the time spent in delay, spent driving a distance.
- **Average posted speeds** are the average segment and section signed speed limits based on distance.

The posted speed limit was not exceeded during the travel time runs despite traffic flow frequently exceeding the posted speed.

**Table 8: Northbound Travel Time and Delay Results**

Roadway limits	Average Travel Time	Average Travel Speed (mph)	LOS	Average Delay	Average Running Time	Average Running Speed (mph)	Average Posted Speed (mph)
Avocado Dr to south of Silver Palm Dr	0:06:29	37.5	B <sup>(1)</sup>	0:00:40	0:05:49	41.8	45.0
Silver Palm Dr to south of Eureka Dr	0:05:43	31.4	C <sup>(1)</sup>	0:01:03	0:04:40	44.1	45.0
Eureka Dr to south of Kendall Dr	0:08:48	44.6	D <sup>(2)</sup>	0:00:13	0:08:35	45.7	47.1
Kendall Dr to south of Tamiami Trail	0:07:02	42.6	D <sup>(2)</sup>	0:00:30	0:06:32	45.9	47.3
Tamiami Trail to US 27	0:17:15	49.7	C <sup>(2)</sup>	0:00:56	0:16:19	52.5	55.0
Section 150 - Urban Street (Avocado Drive to south of Eureka Drive)	0:12:12	34.8	B <sup>(1)</sup>	0:01:43	0:10:29	40.4	45.0
Section 150 - Two-Lane Hwy (Eureka Drive to south of Tamiami Trail)	0:15:50	43.7	D <sup>(2)</sup>	0:00:43	0:15:07	45.8	47.2
Section 070	0:17:15	49.7	C <sup>(2)</sup>	0:00:56	0:16:19	52.5	55.0
Total Study Length (Avocado Drive to US 27)	0:45:17	43.5	NA	0:03:22	0:41:55	47.1	50.1

(1) based on HCM 2000 LOS Criteria for Class I Urban Streets (Exhibit 15-2)

(2) based on HCM 2000 LOS Criteria for Two-Lane Highways in Class I (Exhibit 20-3)

Table 9: Southbound Travel Time and Delay Results

Roadway limits	Average Travel Time	Average Travel Speed (mph)	LOS	Average Delay	Average Running Time	Average Running Speed (mph)	Average Posted Speed (mph)
North of Avocado Dr to Silver Palm Dr	0:06:00	40.5	B <sup>(1)</sup>	0:00:15	0:05:45	42.3	45.0
North of Silver Palm Dr to Eureka Dr	0:04:31	39.7	B <sup>(1)</sup>	0:00:18	0:04:13	42.5	45.0
North of Eureka Dr to Kendall Dr	0:08:51	44.3	D <sup>(2)</sup>	0:00:07	0:08:44	44.8	47.1
North of Kendall Dr to Tamiami Trail	0:06:23	47.0	C <sup>(2)</sup>	0:00:13	0:06:10	48.6	47.3
Tamiami Trail to US 27	0:16:34	51.7	B <sup>(2)</sup>	0:00:46	0:15:48	54.2	55.0
Section 150 - Urban Street (North of Avocado Drive to Eureka Drive)	0:10:31	40.3	B <sup>(1)</sup>	0:00:33	0:09:58	42.6	45.0
Section 150 - Two-Lane Hwy (North of Eureka Drive to Tamiami Trail)	0:15:14	45.4	C <sup>(2)</sup>	0:00:20	0:14:54	46.4	47.2
Section 070	0:16:34	51.7	B <sup>(2)</sup>	0:00:46	0:15:48	54.2	55.0
Total Study Length (Avocado Drive to US 27)	0:42:19	46.6	NA	0:01:39	0:40:40	48.5	50.1

(1) based on HCM 2000 LOS Criteria for Class I Urban Streets (Exhibit 15-2)

(2) based on HCM 2000 LOS Criteria for Two-Lane Highways in Class I (Exhibit 20-3)

As shown in Table 8, the average weekday a.m. peak hour travel time for the study corridor in the northbound direction is 45 minutes and 17 seconds. The time in delay averages three minutes and 22 seconds (approximately 7.5% of the total travel time). The average running speed (speed while not in delay) is 47.1 mph and the average posted speed is 50.1 mph. For each segment of the study corridor, the average running speed is within 3.2 mph of the posted speed limit.

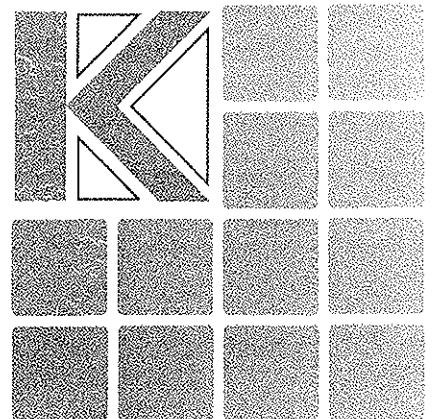
As shown in Table 9, the average weekday a.m. peak hour travel time for the study corridor in the southbound direction is less than the northbound direction at 42 minutes and 19 seconds, because southbound is the off-peak direction. The time in delay averages one minute and 39 seconds (approximately 4% of the total travel time), which also is less than the northbound direction. The average running speed (speed while not in delay) is 48.5 mph and the average posted speed is 50.1 mph. For each segment of the study corridor, the average running speed is within 2.7 mph of the posted speed limit.

Travel in the southbound direction takes less time from end-to-end, has less delay, and has a faster running speed than the northbound direction. The average running speeds in the southbound direction are also closer to the posted speed limits. Regardless, travelers in both directions experience relatively low delay compared to the total travel time and are able to travel near the posted speed limit. The reported Level-of-Service does not consider posted speed limits, only the desired mobility for the segment functional classification and design.

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## Section 7

### Crash Data





## Crash Data

The crash data for the six years (1995 to 2000) was obtained from the FDOT for analysis. Both spot and segment Actual Crash Rates were found. These rates were compared with Florida Critical Crash Rates to determine the Safety Ratios. Spots or segments with a safety ratio of greater than 1.0 are considered high crash locations. In addition, fatal crashes (up to March 2002) were provided by FDOT for determining fatal crash rates and fatality rates for the last seven years, 1995 to 2001.

Table 10: Summary of Crashes by Categories

	1995	1996	1997	1998	1999	2000	Total	Percentage
<b>Harmful Event</b>								
Rear End	32	48	64	78	77	73	372	30.4%
Angle	20	31	33	32	43	40	199	16.3%
Tree/Shrub	7	20	23	18	19	24	111	9.1%
Sideswipe	16	10	14	31	13	21	105	8.6%
Left Turn	15	14	19	16	18	23	105	8.6%
Ran into Ditch/Culvert	4	9	5	8	13	10	49	4.0%
Overturn	4	6	6	9	12	9	46	3.8%
Head on	2	6	9	4	13	9	43	3.5%
Pole	4	3	4	5	3	4	23	1.9%
Moveable Object on Road	1	1	3	3	6	3	17	1.4%
Right Turn	2	0	2	6	1	2	13	1.1%
Ran off Road into Water	2	2	0	1	6	6	17	1.4%
Guardrail	2	0	2	3	3	4	14	1.1%
Pedestrian	1	2	0	2	2	1	8	0.7%
<b>Weather</b>								
Dry	56	86	81	113	134	127	597	48.9%
Cloudy	50	55	79	90	81	93	448	36.7%
Rain	13	19	32	27	29	30	150	12.3%
<b>Road Surface</b>								
Dry	97	129	151	187	206	200	970	79.4%
Wet	22	34	40	42	38	49	225	18.4%
Slippery	2	0	2	3	2	2	11	0.9%
<b>Site Location</b>								
Not at Intersection, RR Xing or Bridge	54	73	96	131	127	136	617	50.5%
At Intersection	51	71	80	77	95	92	466	38.1%
Driveway Access	8	7	10	17	16	16	74	6.1%
Influenced by Intersection	7	9	7	6	10	10	49	4.0%
R/R Crossing	0	1	0	2	1	1	5	0.4%
Entrance Ramp	1	1	0	0	2	0	4	0.3%
Exit Ramp	1	1	2	0	0	0	4	0.3%
Bridge	0	1	0	0	1	1	3	0.2%

	1995	1996	1997	1998	1999	2000	Total	Percentage
<b>Lighting</b>								
Daylight	72	110	135	166	175	161	819	67.0%
Dark (no street light)	31	36	35	33	41	63	239	19.6%
Dark (street light)	12	10	15	14	15	19	85	7.0%
<b>Severity</b>								
Fatal	3	3	2	3	5	8	24	2.0%
Injury	73	104	108	117	147	144	693	56.7%
Property Damage Only	46	57	85	113	100	104	505	41.3%
<b>Total</b>	<b>122</b>	<b>164</b>	<b>195</b>	<b>233</b>	<b>252</b>	<b>256</b>	<b>1222</b>	<b>100%</b>

### Methodology

The **Actual Crash Rate** is a function of segment length times the annual number of vehicles in relation to the number of crashes, as shown below:

$$\text{Actual Crash Rate} = \frac{\text{Number of crashes in year (within limits specified)}}{(\text{Number of vehicles (ADT)} \times 365 \times \text{length in miles}) / 1,000,000}$$

= Crashes per million vehicle miles

**Critical Crash Rate** is a function of segment length, traffic volume, and the average rate for the category of highway being testing. The critical crash rate for segments can be determined using the following equation:

$$C = R + K \sqrt{\frac{R}{M}} - \frac{1}{2M}$$

Where: C = Critical crash rate for segments

R = Average crash rate for the category of highway being testing  
(crashes per million vehicle miles)

M = Average vehicle exposure for one year at the location  
(million vehicle miles)

K = Constant (1.645 rural, 3.291 urban)

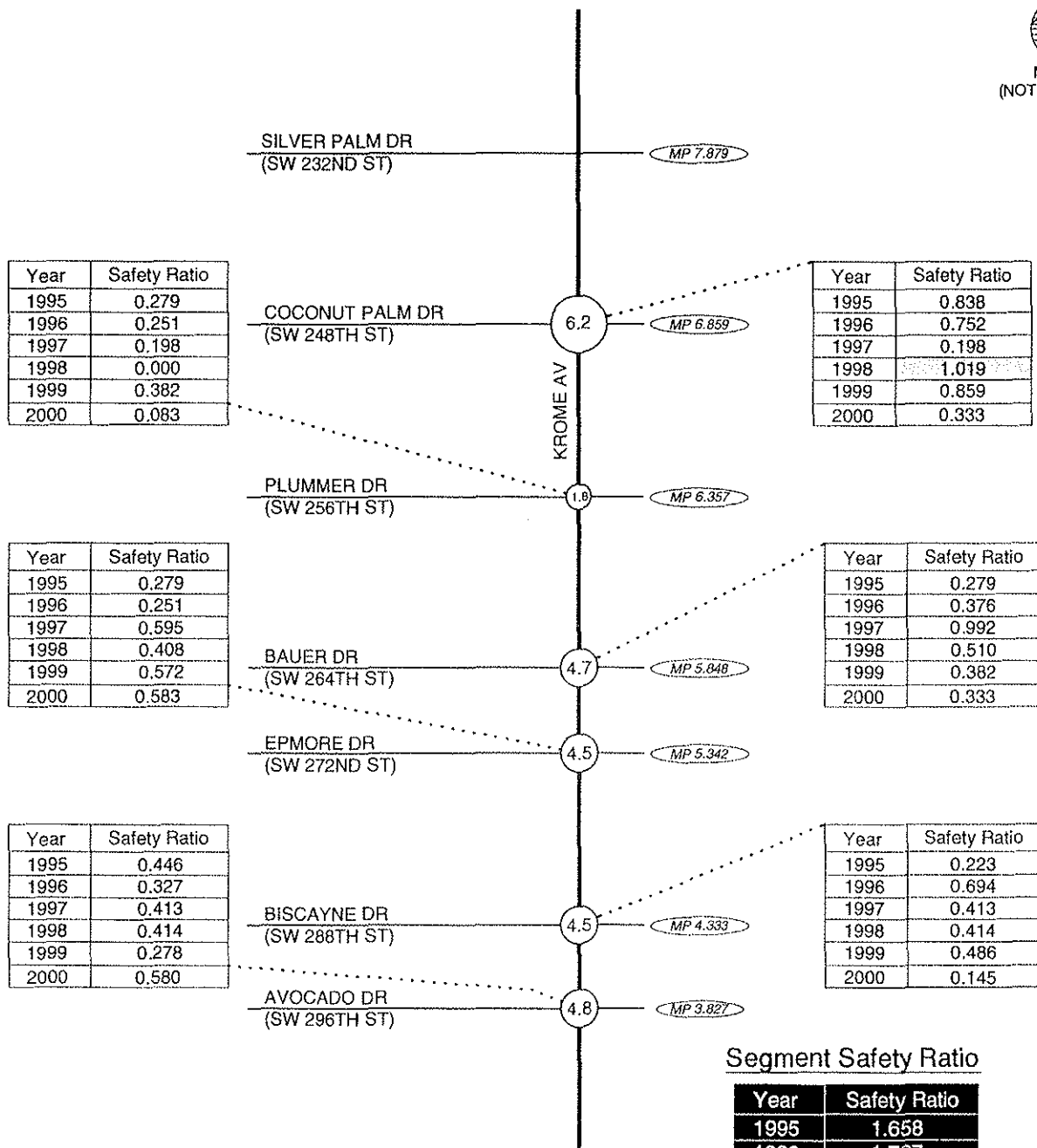
The critical crash rate for spots can be determined using the following equation:

$$H = A + K \sqrt{\frac{A}{V}} - \frac{1}{2V}$$

Where: H = Critical crash rate for spots

from Avocado Drive/SW 296<sup>th</sup> Street to just south of (not including) Silver Palm Drive/SW 232<sup>nd</sup> Street. The next segment is from Silver Palm Drive to south of Eureka Drive/SW 184<sup>th</sup> Street. The most northern segment includes both north and south limit intersections (Tamiami Trail and Okeechobee Road/US 27). All segments were analyzed as 'rural'. The average annual intersection crash, safety ratio at each intersection, and the safety ratio for the segments are summarized in Figures 12A to 12E.

Although there is some fluctuation in segment safety ratios between Eureka Drive to Tamiami Trail over the years, a slight increase is observed. As the distance between intersections increases, the percentage of crashes occurring at the intersections decreases. This is an indication that a corridor safety improvement plan should be considered, not just at individual intersections.



#### Segment Safety Ratio

Year	Safety Ratio
1995	1.658
1996	1.787
1997	1.920
1998	1.921
1999	1.952
2000	1.384

AVOCADO DR to south of SILVER PALM DR  
 Total Length: 4.05 miles  
 Average Annual Crash: 35.7  
 Percentage at Intersection: 74.2  
 Percentage at Signalized Intersection: 56.5

#### LEGEND

④ Average Annual Crash

Year	Safety Ratio
19XX	< 1
19XX	≥ 1

## AVERAGE ANNUAL INTERSECTION/SEGMENT CRASHES AND SAFETY RATIO (1995-2000)

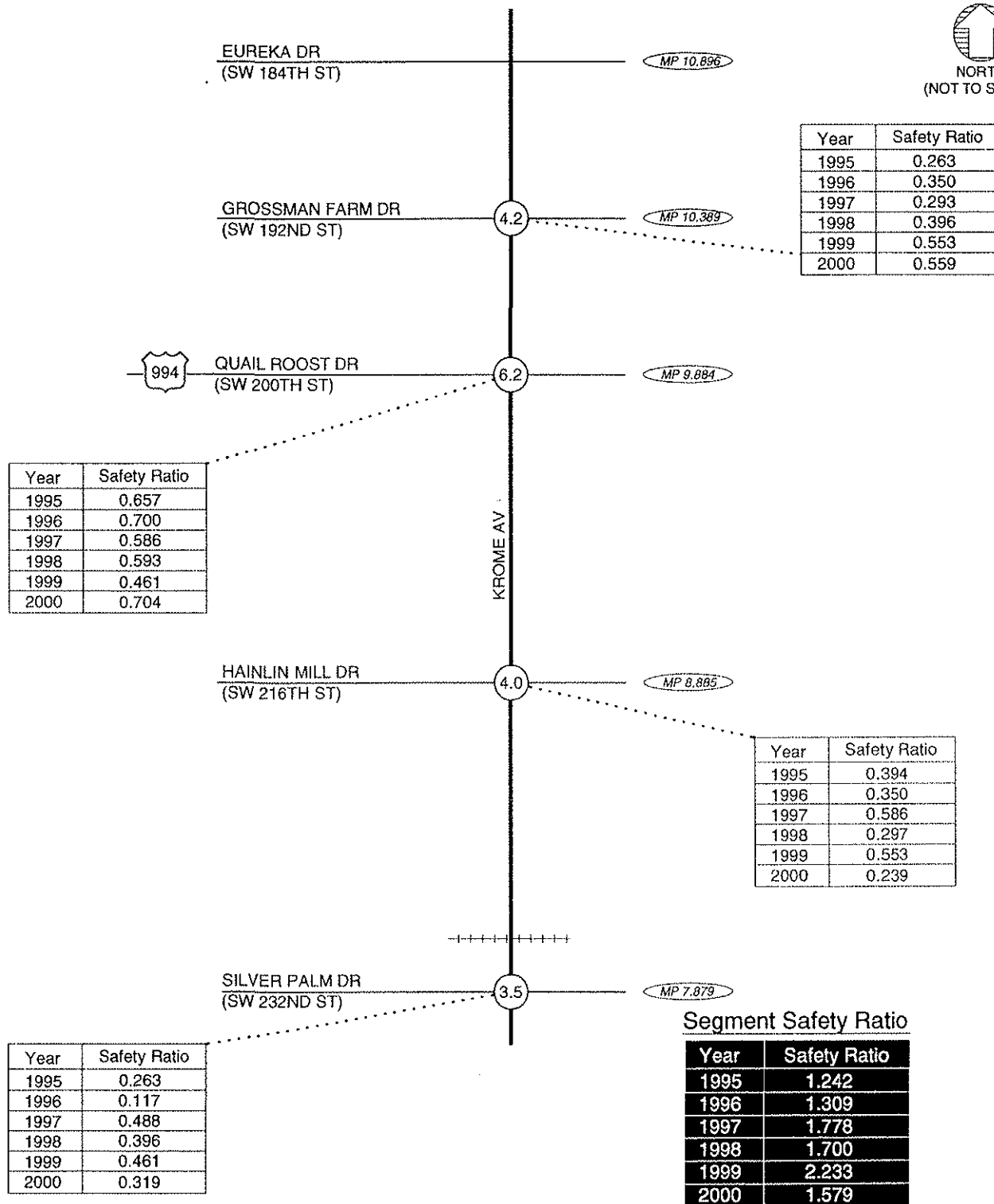
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 MIAMI, FLORIDA  
 AUGUST 2002

FIGURE  
**12A**





NORTH  
(NOT TO SCALE)



SILVER PALM DR to south of EUREKA DR  
Total Length: 3.02 miles  
Average Annual Crash: 26.2  
Percentage at Intersection: 68.2  
Percentage at Signalized Intersection: 44.6

## LEGEND

④ Average Annual  
Crash

Year	Safety Ratio
19XX	< 1
19XX	≥ 1

## AVERAGE ANNUAL INTERSECTION/SEGMENT CRASHES AND SAFETY RATIO (1995-2000)

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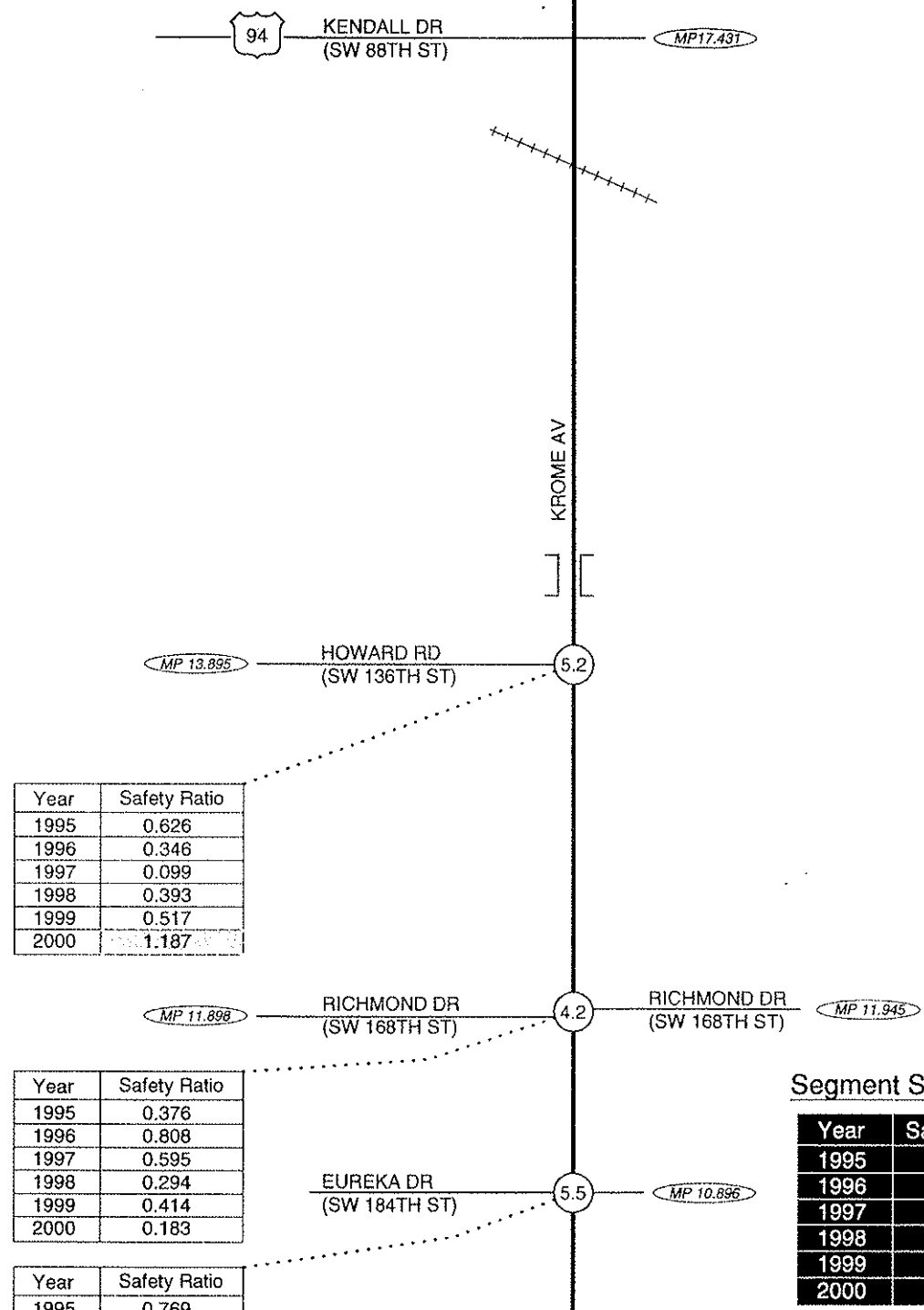
AUGUST 2002

FIGURE

12B



4533FIG (SAFETY)



EUREKA DR to south of KENDALL DR  
 Total Length: 6.54 miles  
 Average Annual Crash: 34.3  
 Percentage at Intersection: 43.2  
 Percentage at Signalized Intersection: 16.0

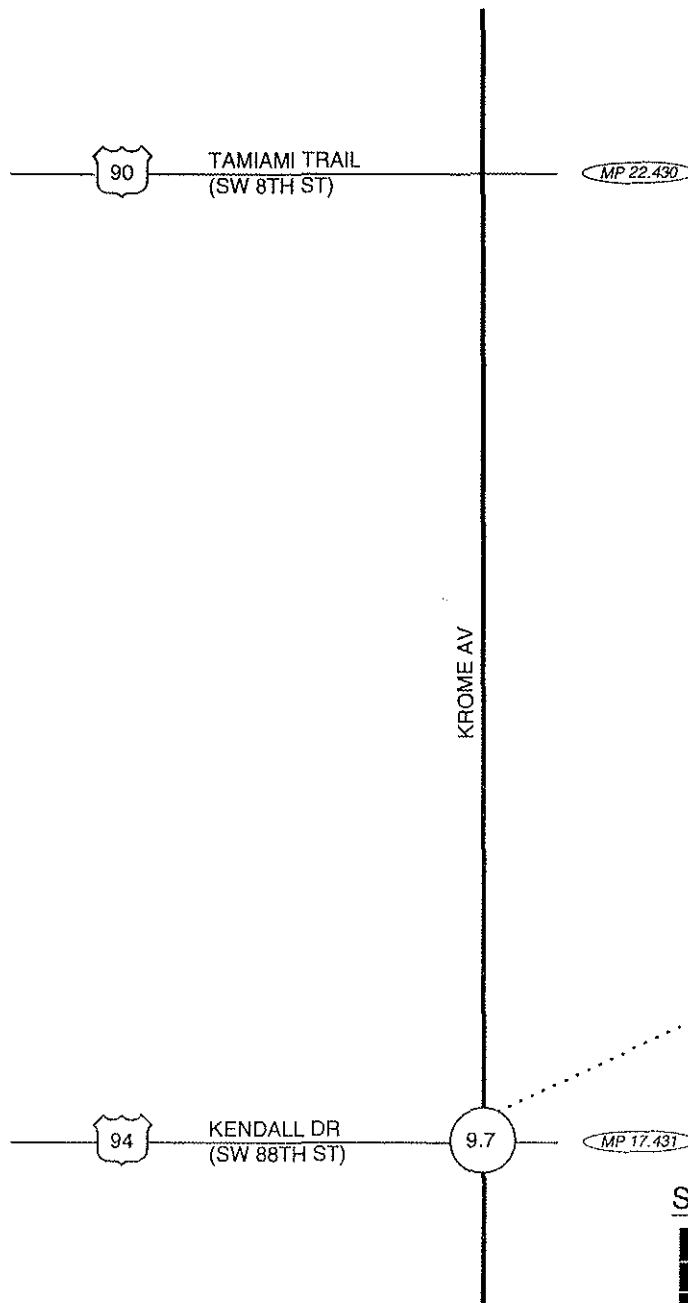
**LEGEND**

④ Average Annual Crash

Year	Safety Ratio
19XX	< 1
19XX	≥ 1

**AVERAGE ANNUAL INTERSECTION/SEGMENT CRASHES AND SAFETY RATIO (1995-2000)**

KROME AVENUE - EXISTING LOS ANALYSIS MIAMI, FLORIDA AUGUST 2002	FIGURE <b>12C</b>	
---	----------------------	--



Year	Safety Ratio
1995	0.657
1996	1.866
1997	0.694
1998	0.982
1999	0.874
2000	0.843

#### Segment Safety Ratio

Year	Safety Ratio
1995	0.877
1996	1.023
1997	0.973
1998	1.281
1999	1.280
2000	1.359

KENDALL DR to south of TAMIAMI TRAIL  
 Total Length: 5.00 miles  
 Average Annual Crash: 30.0  
 Percentage at Intersection: 32.2  
 Percentage at Signalized Intersection: 32.2

#### LEGEND

④ Average Annual Crash

Year	Safety Ratio
19XX	< 1
19XX	≥ 1

## AVERAGE ANNUAL INTERSECTION/SEGMENT CRASHES AND SAFETY RATIO (1995-2000)

KROME AVENUE - EXISTING LOS ANALYSIS  
 MIAMI, FLORIDA  
 AUGUST 2002

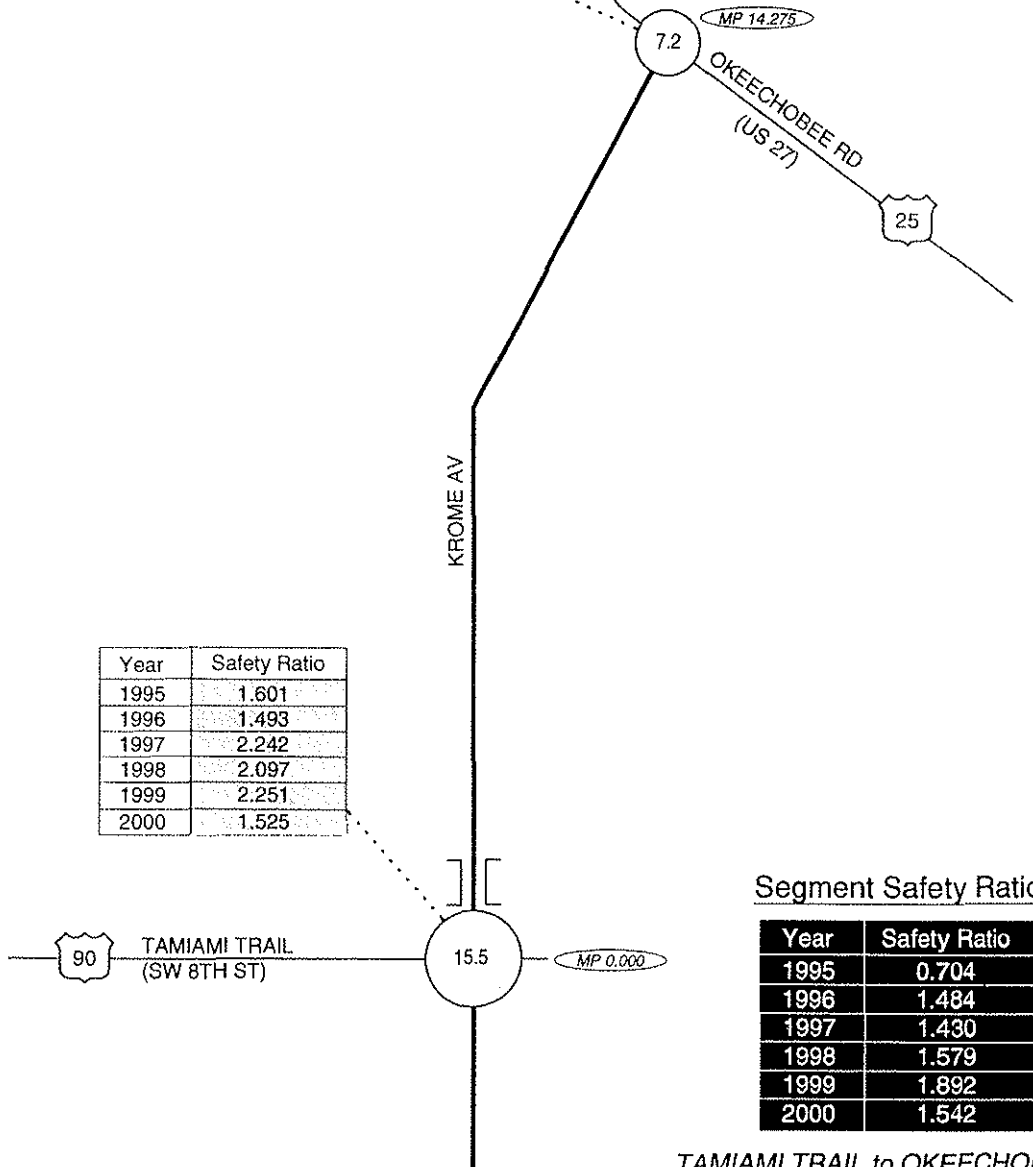
FIGURE  
**12D**



4533FIG (SAFETY)



Year	Safety Ratio
1995	0.801
1996	1.327
1997	0.472
1998	0.582
1999	1.393
2000	0.746



TAMIAMI TRAIL to OKEECHOBEE RD  
 Total Length: 14.275  
 Average Annual Crash: 74.0  
 Percentage at Intersection: 30.6  
 Percentage at Signalized Intersection: 20.9

#### LEGEND

④ Average Annual Crash

Year	Safety Ratio
19XX	< 1
19XX	≥ 1

\* Proposed Safety Improvements

## AVERAGE ANNUAL INTERSECTION/SEGMENT CRASHES AND SAFETY RATIO (1995-2000)

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 MIAMI, FLORIDA  
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FIGURE  
**12E**





All fatal crashes from January 1995 to March 2002 are documented in Figures 13A to 13E. The following information is included: number of fatalities, approximate milepost, date, time, causes and possible environment conditions. The fatal crash rate was also determined over the years.

The fatal crashes increase significantly in the last two years, especially from Eureka Drive/SW 184<sup>th</sup> Street to Kendall Drive/SW 88<sup>th</sup> Street and from Tamiami Trail/SW 8<sup>th</sup> Street to Okeechobee Road/US27. There were a total of 39 fatal crashes from January 1995 to March 2002, about half of them occurred at night (8 p.m. to 4 a.m.). A summary of all fatal crashes along the entire studied corridor is presented in Table 11.

**Table 11: Summary of Fatal Crashes and Fatalities  
(January 1995- March 2002)**

Year	1995	1996	1997	1998	1999	2000	2001	2002 (Jan-Mar)
<b>Fatal Crashes</b>	3	3	2	3	5	8	12	3
<b>Fatalities</b>	5	3	5	3	6	9	18	5

Fifteen of 39 fatal crashes were head-on crashes, which accounted for 24 fatalities (44% of all fatalities). Others were classified as any of the following: angle, pedestrian, left turn, run off road, overturn, and other. The following are some initial observations on all fatal crashes:

- Of the five segments analyzed, the segment from Eureka Drive to south of Kendall Drive had the highest fatal crash rate. In a length of less than 5 miles, there were 14 fatal crashes from 1996 to 2001.
- In 2001, three fatal crashes occurred within 0.2 mile (MP 14.868 to MP 15.070), accounting for five fatalities. One potential cause of the crashes is the roadside clutter caused by narrow shoulders and utility poles near the edge of the roadway.
- The segment from Tamiami Trail to US 27 has good sight distance. However, the sharp curve at approximately milepost 10.500 is unmarked and is a potential cause of crashes in the area.

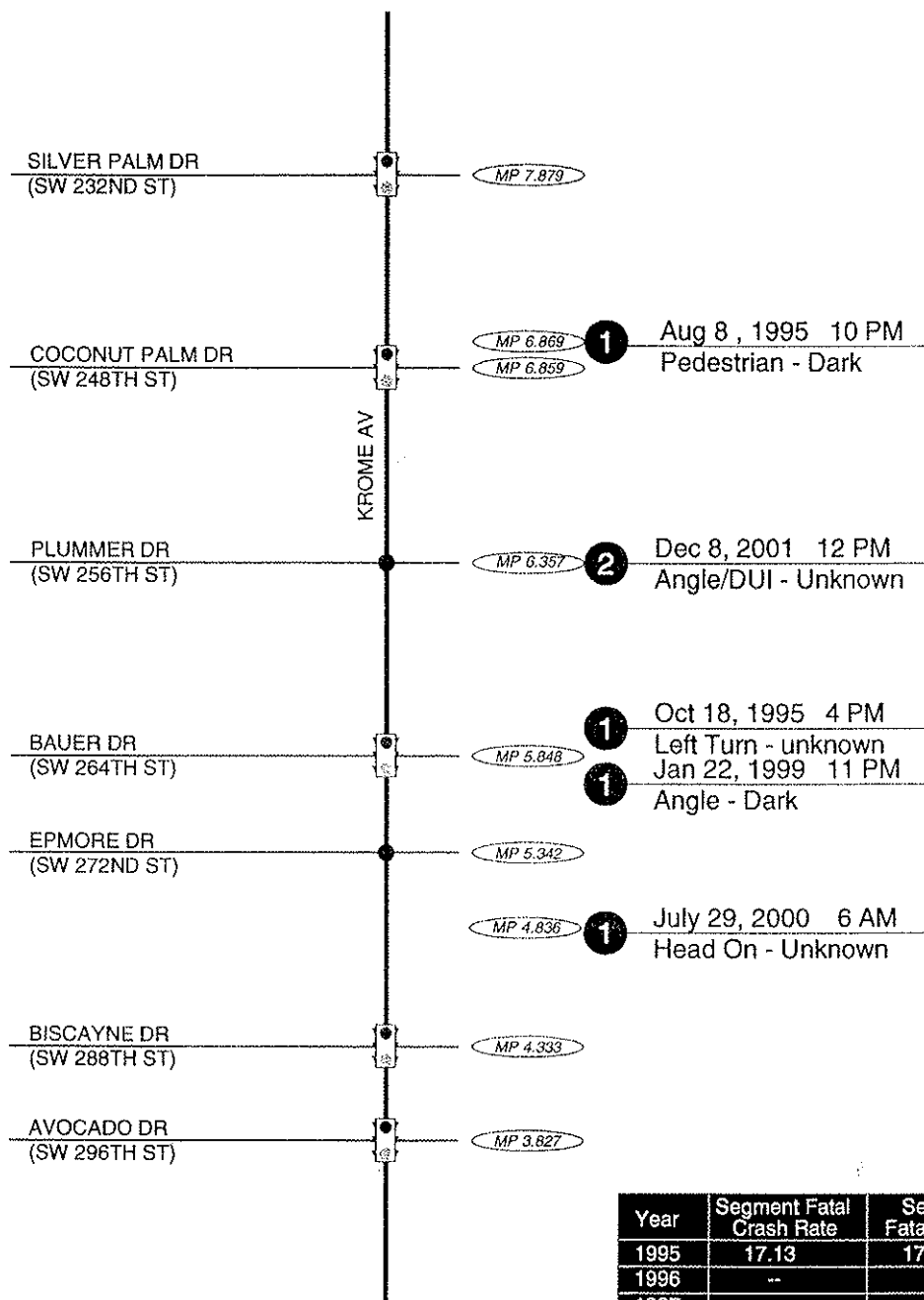
A more detailed review of crash reports themselves is recommended in order to determine the precise causes of crashes and appropriate actions to prevent such crashes. This action should be done in the next phase of the study as a follow-up action. Crash sites were inspected and nearby conditions for each location is summarized in Table 12.

Figure 14 shows the safety analysis summary for the entire corridor.

Table 12: Nearby Conditions at Fatal Crashes Locations

Section	Milepost	Location	Near by conditions
87150	4.836	Mid-block	Wide shoulders on both sides
87150	5.848	At SW 264th St	Signalized intersection, exclusive left-turn lane
87150	5.848	At SW 264th St	Signalized intersection, exclusive left-turn lane
87150	6.357	At SW 256th St	Unsignalized intersection, Sunoco service station in SW corner
87150	6.869	At SW 248th St	Amoco gas station SW corner, Texaco NE corner, Construction in NW corner, SE corner vacant
87150	10.622	At SW 188th St	Good sight distance
87150	12.200	Mid-block	Hit pole on eastside, north of Chekika recreation area driveway
87150	12.420	Mid-block	Poles on westside, shoulder on eastside
87150	12.738	Mid-block	Poles on westside, shoulder on eastside
87150	13.280	Mid-block	~ at SE 154th St, by GUS Nursery; poles on Westside, shoulder on eastside
87150	13.821	Mid-block	Just south of SW 136th St, poles on Westside, shoulder on eastside
87150	13.895	At SW 136th St	Grass shoulder on Westside, poles on eastside north of intersection only.
87150	13.895	At SW 136th St	Grass shoulder on Westside, poles on eastside north of intersection only.
87150	14.668	At SW 122nd St	Good sight distance
87150	14.868	Mid-block	Guardrail on the eastside, 20ft graveled/grass shoulder with poles on the Westside - just north of D'Martinez nursery.
87150	14.940	Mid-block	
87150	15.070	Mid-block	
87150	15.700	Mid-block	Guardrail on eastside, narrow shoulder on Westside
87150	16.156	At SW 100th St	Good side distance, one lane-all movements
87150	16.931	Mid-block	North of railroad crossing, guardrail on both sides
87150	17.431	At SW 88th St	Guardrail on eastside, shoulder on Westside
87150	19.431	Mid-block	Guardrail on Westside for culvert, continuous guardrail on eastside
87150	20.430	Mid-block	Wooded area on the Westside, guardrail on the eastside
87070	1.020	Mid-block	Near a driveway
87070	1.700	Mid-block	Speed changes from 50 mph to 55 mph
87070	2.020	Mid-block	20 ft slope shoulders
87070	2.300	Mid-block	South of Curve-right sign, 20 ft slope shoulders, NB no passing
87070	2.350	Mid-block	
87070	4.300	Mid-block	Near guide sign, crash location may be miscoded.

87070	8.400	Mid-block	No passing zone, 20 ft slope shoulders, near driveway
87070	8.800	Mid-block	Driveway south of curve-right sign
87070	9.150	Mid-block	Sharp curve, unmarked
87070	9.250	Mid-block	Missed curve, ran off road to the right.
87070	11.500	Mid-block	Good sight distance, straight road
87070	12.275	Mid-block	Milton Thomas Park eastside – park closes at 5:30, Parking for fishing Westside; good sight distance



NOTE: FATALITY RATE IS THE NUMBER OF FATALITIES PER 100 MILLION VEHICLE MILES

NOTE: FATAL CRASH RATE IS THE NUMBER OF FATAL CRASHES PER 100 MILLION VEHICLE MILES

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	17.13	17.13
1996	--	--
1997	--	--
1998	--	--
1999	5.64	5.64
2000	5.01	5.01
2001	4.80	9.60

AVOCADO DR to south of SILVER PALM DR  
Total Length: 4.05 Miles

## LEGEND

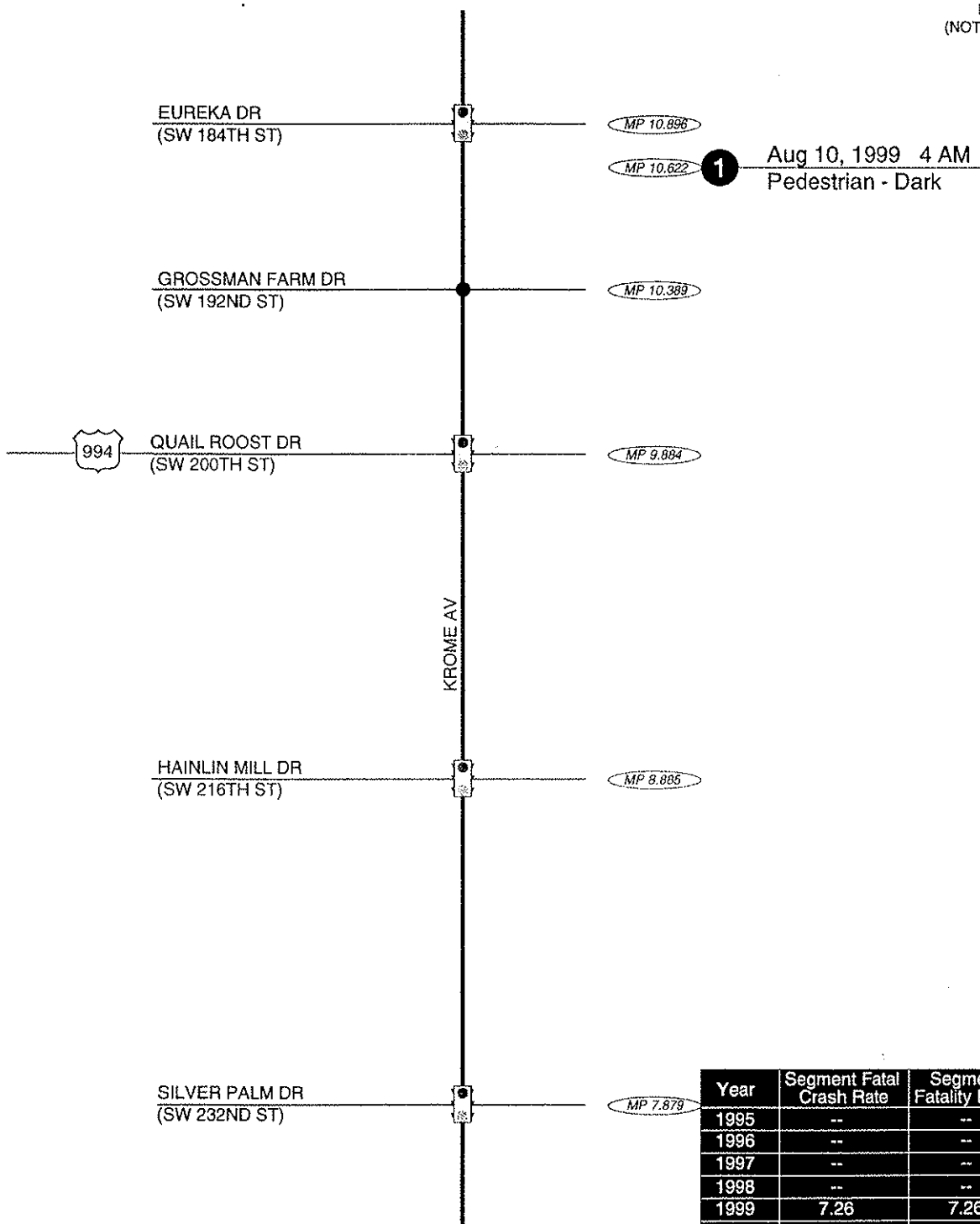
- # Fatality
- 1 Date Time
- Event - Condition
- Unsignalized Intersection
- ⬮ Signalized Intersection

## FATAL CRASHES (1995 - MARCH 2002) FATAL CRASH RATE AND FATALITY RATE (1995-2001)

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FIGURE  
**13A**





NOTE: FATALITY RATE IS THE NUMBER OF FATALITIES PER 100 MILLION VEHICLE MILES

NOTE: FATAL CRASH RATE IS THE NUMBER OF FATAL CRASHES PER 100 MILLION VEHICLE MILES

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	--	--
1997	--	--
1998	--	--
1999	7.26	7.26
2000	--	--
2001	--	--

SILVER PALM DR to south of EUREKA DR  
Total Length: 3.02 Miles

## LEGEND

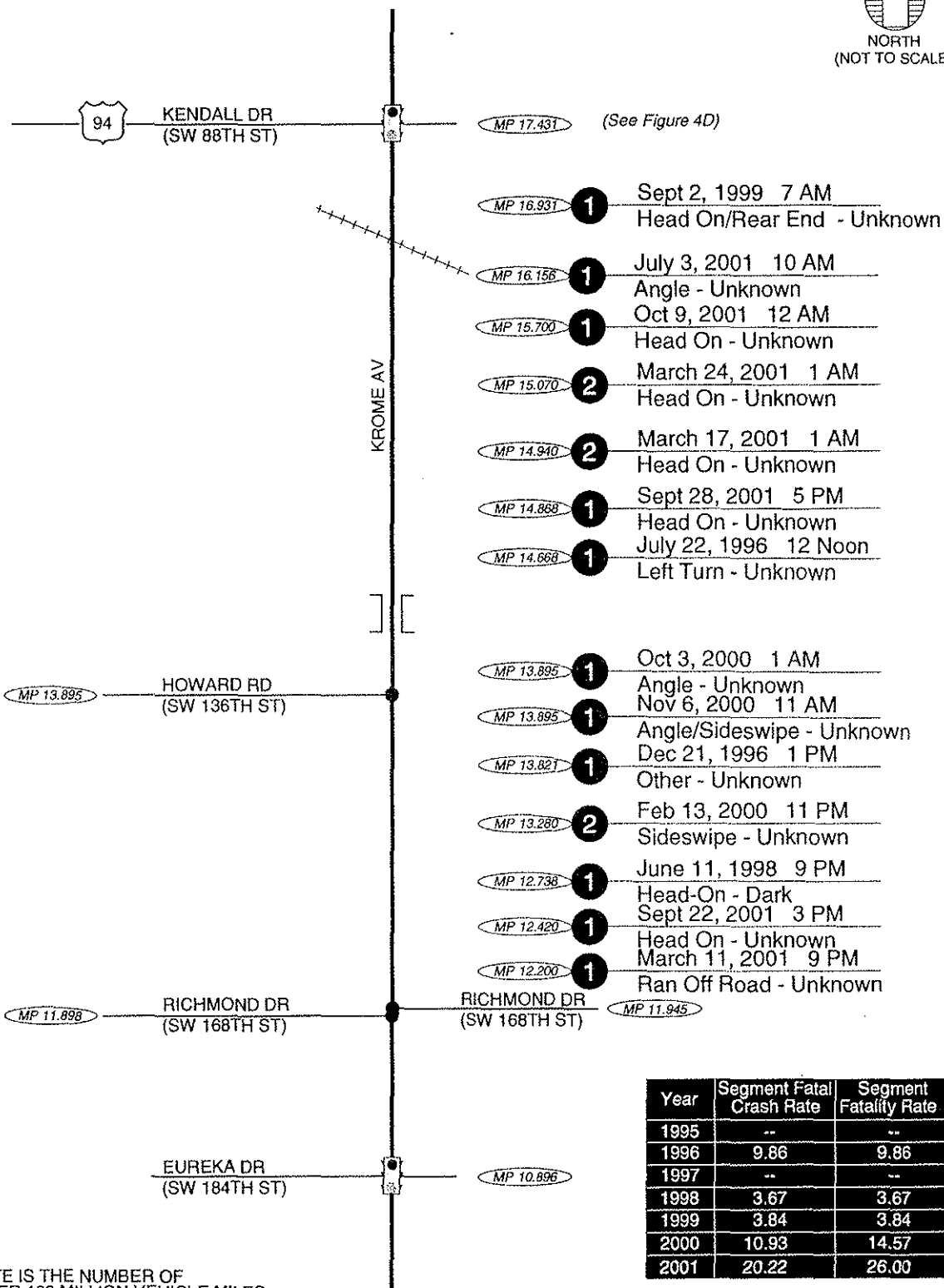
- # Fatality
- 1** Date Time
- Event - Condition
- Unsignalized Intersection
- Signalized Intersection

## FATAL CRASHES (1995 - MARCH 2002) FATAL CRASH RATE AND FATALITY RATE (1995-2001)

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE  
**13B**





NOTE: FATALITY RATE IS THE NUMBER OF FATALITIES PER 100 MILLION VEHICLE MILES  
 NOTE: FATAL CRASH RATE IS THE NUMBER OF FATAL CRASHES PER 100 MILLION VEHICLE MILES

EUREKA DR to south of KENDALL DR  
 Total Length: 6.54 Miles

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	9.86	9.86
1997	--	--
1998	3.67	3.67
1999	3.84	3.84
2000	10.93	14.57
2001	20.22	26.00

## FATAL CRASHES (1995 - MARCH 2002) FATAL CRASH RATE AND FATALITY RATE (1995-2001)

KROME AVENUE - EXISTING LOS ANALYSIS  
 MIAMI, FLORIDA  
 AUGUST 2002

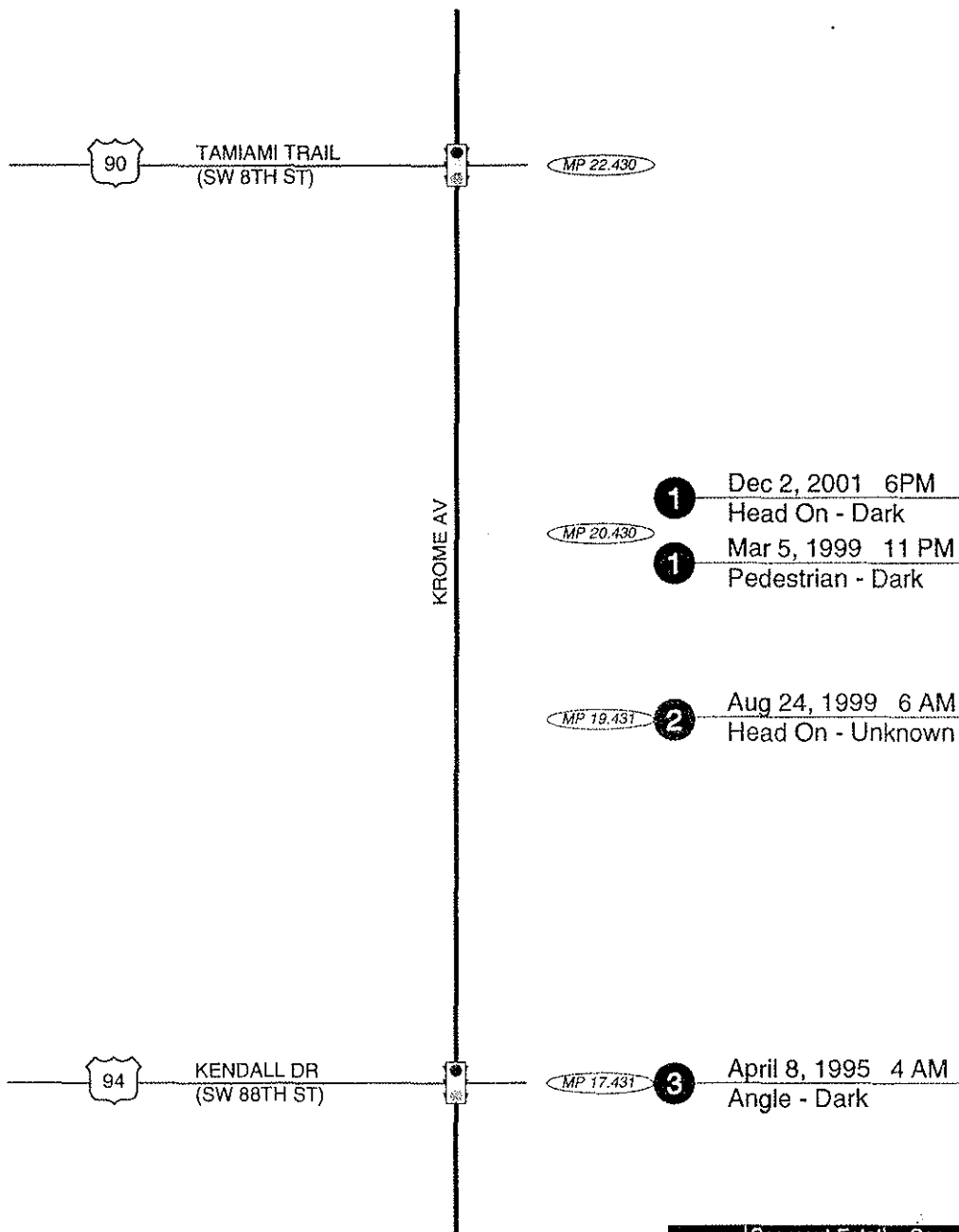
FIGURE  
**13C**



4533FIG (FCRASH)

### LEGEND

- # Fatality
- 1 Date Time
- Event - Condition
- Unsignalized Intersection
- Signalized Intersection



NOTE: FATALITY RATE IS THE NUMBER OF FATALITIES PER 100 MILLION VEHICLE MILES

NOTE: FATAL CRASH RATE IS THE NUMBER OF FATAL CRASHES PER 100 MILLION VEHICLE MILES

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	8.43	25.29
1996	--	--
1997	--	--
1998	--	--
1999	8.24	12.36
2000	--	--
2001	3.70	3.70

KENDALL DR to south of TAMAMI TRAIL  
Total Length: 5.00 Miles

## LEGEND

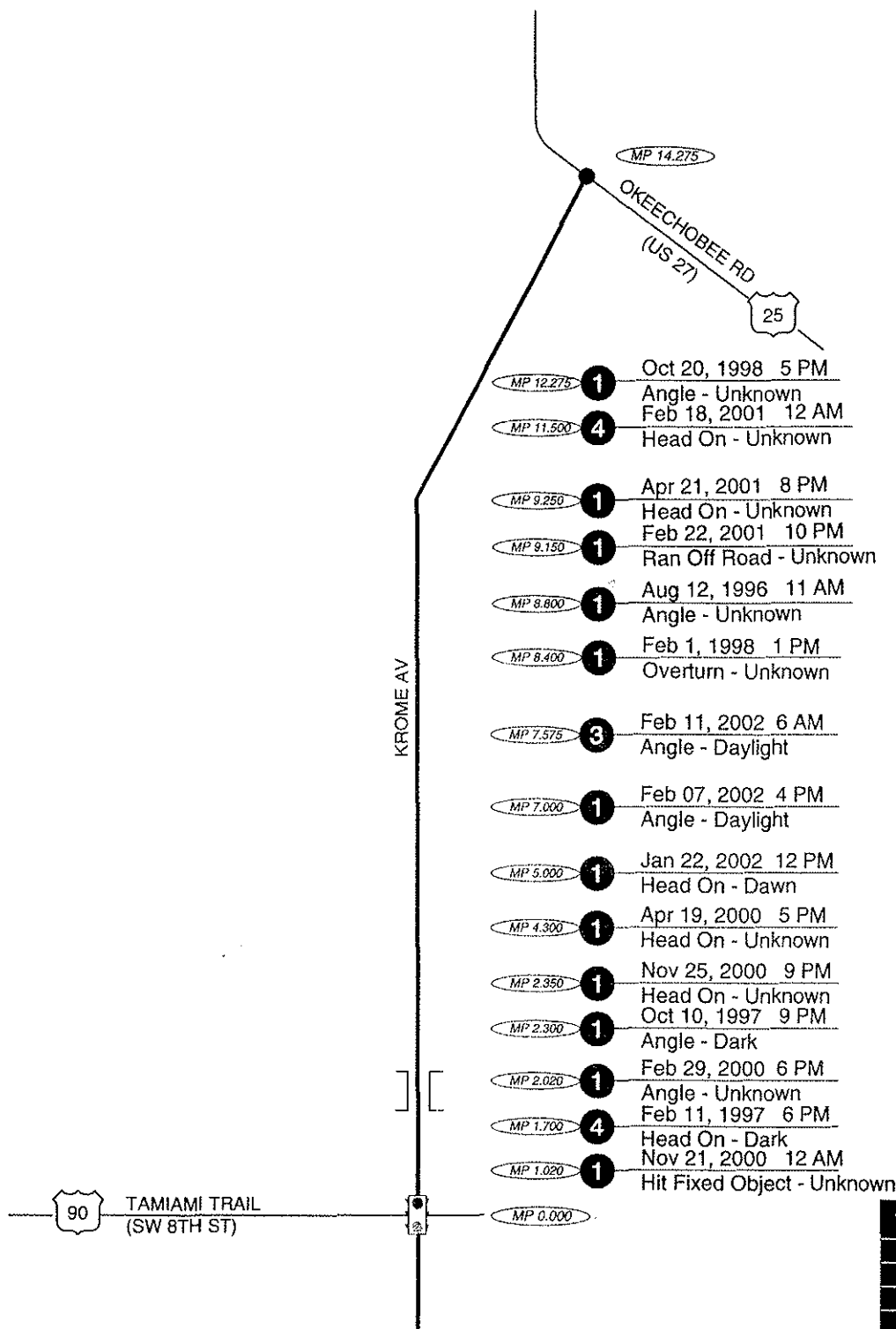
- # Fatality
- 1** Date Time  
Event - Condition
- Unsignalized Intersection
- Signalized Intersection

## FATAL CRASHES (1995 - MARCH 2002) FATAL CRASH RATE AND FATALITY RATE (1995-2001)

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE  
**13D**





Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	3.49	3.49
1997	5.73	14.32
1998	5.33	5.33
1999	--	--
2000	9.25	9.25
2001	6.40	12.79

NOTE: FATALITY RATE IS THE NUMBER OF FATALITIES PER 100 MILLION VEHICLE MILES

NOTE: FATAL CRASH RATE IS THE NUMBER OF FATAL CRASHES PER 100 MILLION VEHICLE MILES

TAMIAMI TRAIL to OKEECHOBEE RD  
Total Length: 14.275 Miles

## LEGEND

# Fatality

1

Date Time

Event - Condition

•

Unsignalized Intersection

◻

Signalized Intersection

## FATAL CRASHES (1995 - MARCH 2002) FATAL CRASH RATE AND FATALITY RATE (1995-2001)

KROME AVENUE - EXISTING LOS ANALYSIS  
MIAMI, FLORIDA  
AUGUST 2002

FIGURE

13E



4533FIG (FCRASH)





Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	3.49	3.49
1997	5.73	14.32
1998	5.33	5.33
1999	--	--
2000	9.25	9.25
2001	6.40	12.79

TAMIAMI TRAIL to OKEECHOBEE RD  
Total Length: 14.275 Miles

Year	Safety Ratio
1995	0.704
1996	1.484
1997	1.430
1998	1.579
1999	1.892
2000	1.542

TAMIAMI TRAIL to OKEECHOBEE RD

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	8.43	25.29
1996	--	--
1997	--	--
1998	--	--
1999	8.24	12.36
2000	--	--
2001	3.70	3.70

KENDALL DR to south of TAMIAMI TRAIL  
Total Length: 5.00 Miles

Year	Safety Ratio
1995	0.877
1996	1.023
1997	0.973
1998	1.281
1999	1.280
2000	1.359

KENDALL DR to south of TAMIAMI TRAIL

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	9.86	9.86
1997	--	--
1998	3.67	3.67
1999	3.84	3.84
2000	10.93	14.57
2001	20.22	26.00

EUREKA DR to south of KENDALL DR  
Total Length: 6.54 Miles

Year	Safety Ratio
1995	0.992
1996	1.127
1997	0.506
1998	0.952
1999	1.279
2000	1.422

EUREKA DR to south of KENDALL DR

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	--	--
1997	--	--
1998	--	--
1999	7.26	7.26
2000	--	--
2001	--	--

SILVER PALM DR to south of EUREKA DR  
Total Length: 3.02 Miles

Year	Safety Ratio
1995	1.242
1996	1.309
1997	1.778
1998	1.700
1999	2.233
2000	1.579

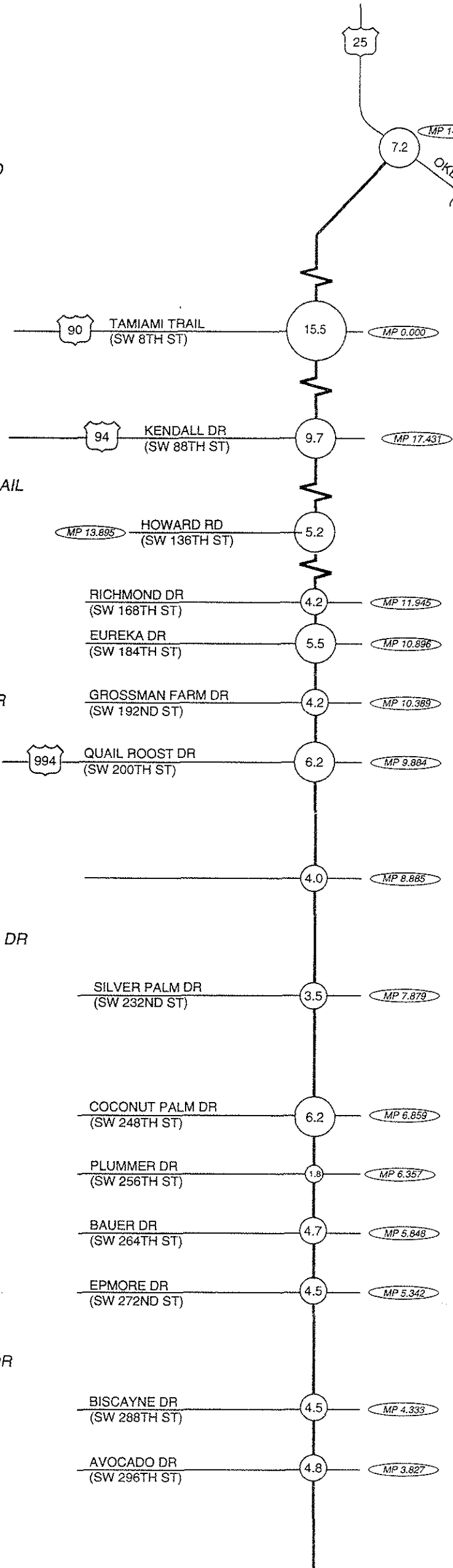
SILVER PALM DR to south of EUREKA DR

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	17.13	17.13
1996	--	--
1997	--	--
1998	--	--
1999	5.64	5.64
2000	5.01	5.01
2001	4.80	9.60

AVOCADO DR to south of SILVER PALM DR  
Total Length: 4.05 Miles

Year	Safety Ratio
1995	1.658
1996	1.787
1997	1.920
1998	1.921
1999	1.952
2000	1.384

AVOCADO DR to south of SILVER PALM DR



LEGEND

(4.2) Average Annual Number of Crashes

SUMMARY OF SAFETY ANALYSIS

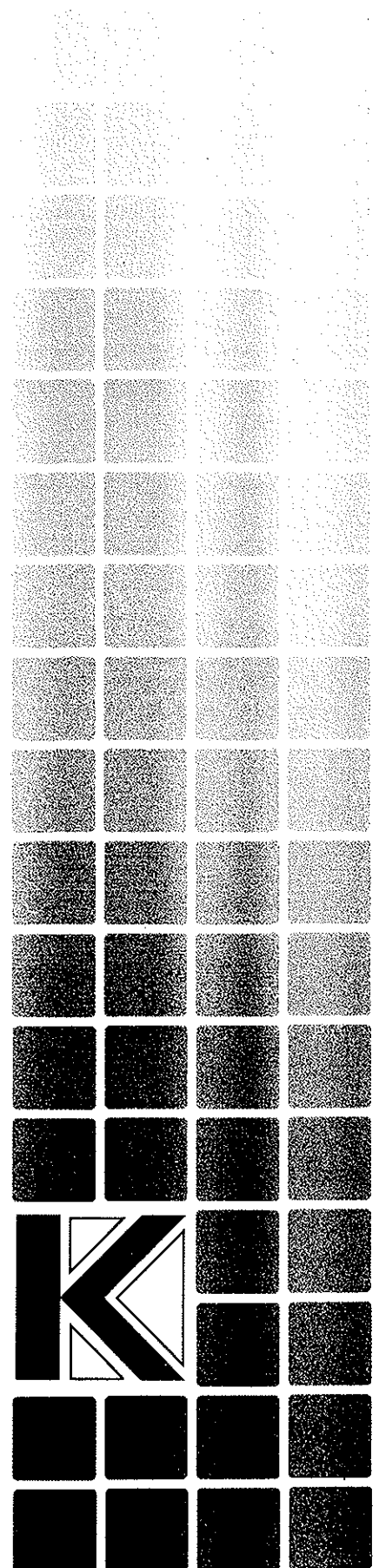
KROME AVE - EXISTING LOS ANALYSIS  
MIAMI-DADE COUNTY, FLORIDA  
AUGUST 2002

FIGURE  
14



## Section 8

### Intersection/Arterial Level of Service



## Intersection/Arterial Level of Service

### Methodology

Level of Service (LOS) analysis was performed for ten signalized intersections using Highway Capacity Software (HCS-Signals). LOS analysis was completed for four unsignalized intersections using HCS-Unsignal. LOS analysis was also performed for the urban section (HCS-Arterials) and for the rural section (HCS Two-lane).

The assumptions are as follows:

- The turning movement counts collected for the morning peak hours were used and an overall intersection peak hour factor was calculated.
- Percentage of heavy vehicles was applied movement-specific.
- Signal timings at the signalized intersections were obtained from FDOT D6 Traffic Engineering Department or its network. All of the signals in the system are semi-actuated. The North-south through movements are the non-actuated movements. The existing timing was used without optimization.
- Lane configurations are as shown in Figures 2A-E
- For the arterial analysis, the free flow speed is assumed to be the posted speed limit.
- For the two-lane highway analysis for the rural segments, the free flow speed is assumed to be 5 mph higher than the average posted speed limit (calibrated to better reflect the field observations).

### Analysis Results

#### Arterial Level of Service

The arterial analysis was performed for both the northbound and southbound directions. Many of the input parameters were imported directly from the signalized intersection analysis. For the analysis purposes, the segment from Avocado Dr/SW 296<sup>th</sup> Street to Eureka Dr/SW 184<sup>th</sup> Street was considered "urban" (due to its signal spacing characteristics) and HCS-Arterials was used for the operation analysis. The other three segments, from Eureka Dr/SW 184<sup>th</sup> St to US 27/Okeechobee Rd were considered "rural" and HCS-Two-Lane was used for analysis. The results are summarized in Table 13:

Table 13: Arterial Level of Service for the Morning Peak Hour

Segment Limits	Free flow Speed (mph)	Travel Speed (mph)	2002 LOS
Avocado Dr/SW 296 <sup>th</sup> Street to Eureka Dr/ SW 184 <sup>th</sup> Street <b>(NB)</b>	N/a	37.4	A
Avocado Dr/SW 296 <sup>th</sup> Street to Eureka Dr/ SW 184 <sup>th</sup> Street <b>(SB)</b>	N/a	37.7	A
Eureka Dr/ SW 184 <sup>th</sup> Street to Kendall Drive/SW 88 <sup>th</sup> Street	46.9	36.0	E
Kendall Drive/SW 88 <sup>th</sup> Street to Tamiami Trail/SW 8 <sup>th</sup> Street	53.5	41.6	D
Tamiami Trail/SW 8 <sup>th</sup> Street to US27/Okeechobee Road	59.8	51.5	C

**Intersection Level of Service**

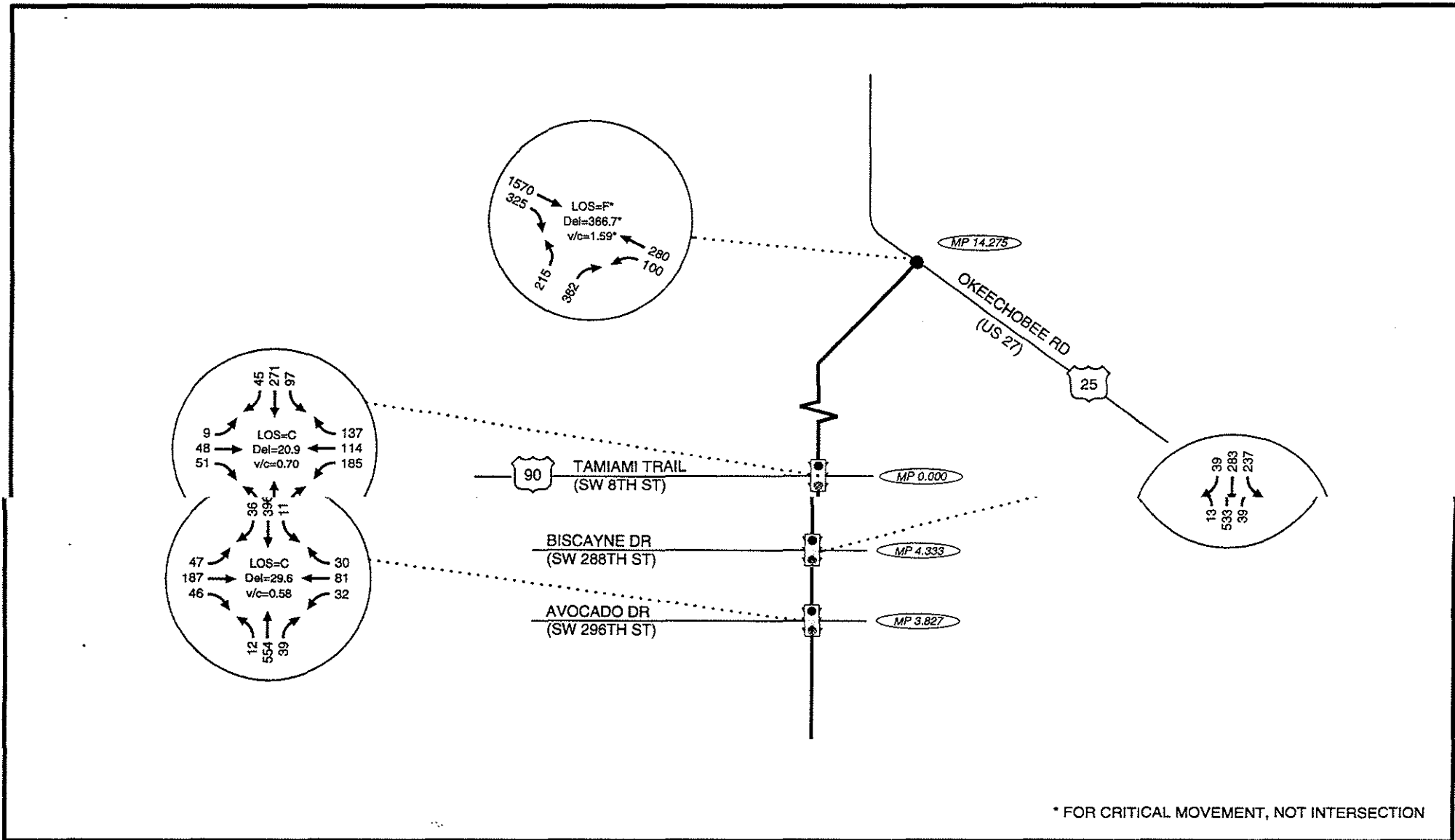
LOS, Control Delay, and Critical v/c ratio for the intersections are presented in Figure 15 as well as in Table 14:

Table 14: Intersection Level of Service for the Morning Peak Hour

Intersection	Critical v/c	Delay (sec)	LOS
Avocado Drive/SW 296 <sup>th</sup> Street	0.58	29.6	C
Biscayne Drive/SW 288 Street	0.74	26.1	C
Epmore Drive/SW 272 Street*	0.73	83.2	F
Bauer Drive/SW 264 Street	0.67	20.0	C
Coconut Palm Drive/SW 248 Street	0.61	19.3	B
Silver Palm Drive/SW 232 Street	0.63	20.0	C
Hainlin Mill Drive/SW 216 Street	0.65	18.7	B
Quail Roost Drive/SW 200 Street	1.02	94.3	F
Grossman Farm Road/SW 192 Street*	0.84	111.0*	F
Eureka Drive/SW 184 Street	0.78	29.6	C
Howard Road/SW 136 Street*	1.69	397.5	F
Kendall Drive/SW 88 Street	1.03	238.0	F
Tamiami Trail/SW 8 Street	0.70	20.9	C
Okeechobee Road/US 27*	1.59	366.7	F

\* For unsignalized intersections, the performance measures recorded are for the critical movement and NOT for the intersection. See Figures 3A to 3E for more detail.

Due to the unique geometry at the Krome Ave/US 27 intersection, it was analyzed as if the Krome Ave northbound traffic negotiates with eastbound and westbound on US 27 separately. The critical movement is the northbound left at this intersection. The control delay of this movement is 352.0 seconds due to the southbound/eastbound traffic and is 14.7 seconds due to the northbound/westbound traffic. These delays result in a total movement control delay of 366.7



### LEGEND

LOS = INTERSECTION LEVEL OF SERVICE

Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
CRITICAL MOVEMENT DELAY (UNSIGNALIZED)

v/c = CRITICAL VOLUME-TO-CAPACITY RATIO

### INTERSECTION LEVEL OF SERVICE FOR THE MORNING PEAK HOUR

KROME AVE - EXISTING LOS ANALYSIS  
MIAMI-DADE COUNTY, FLORIDA

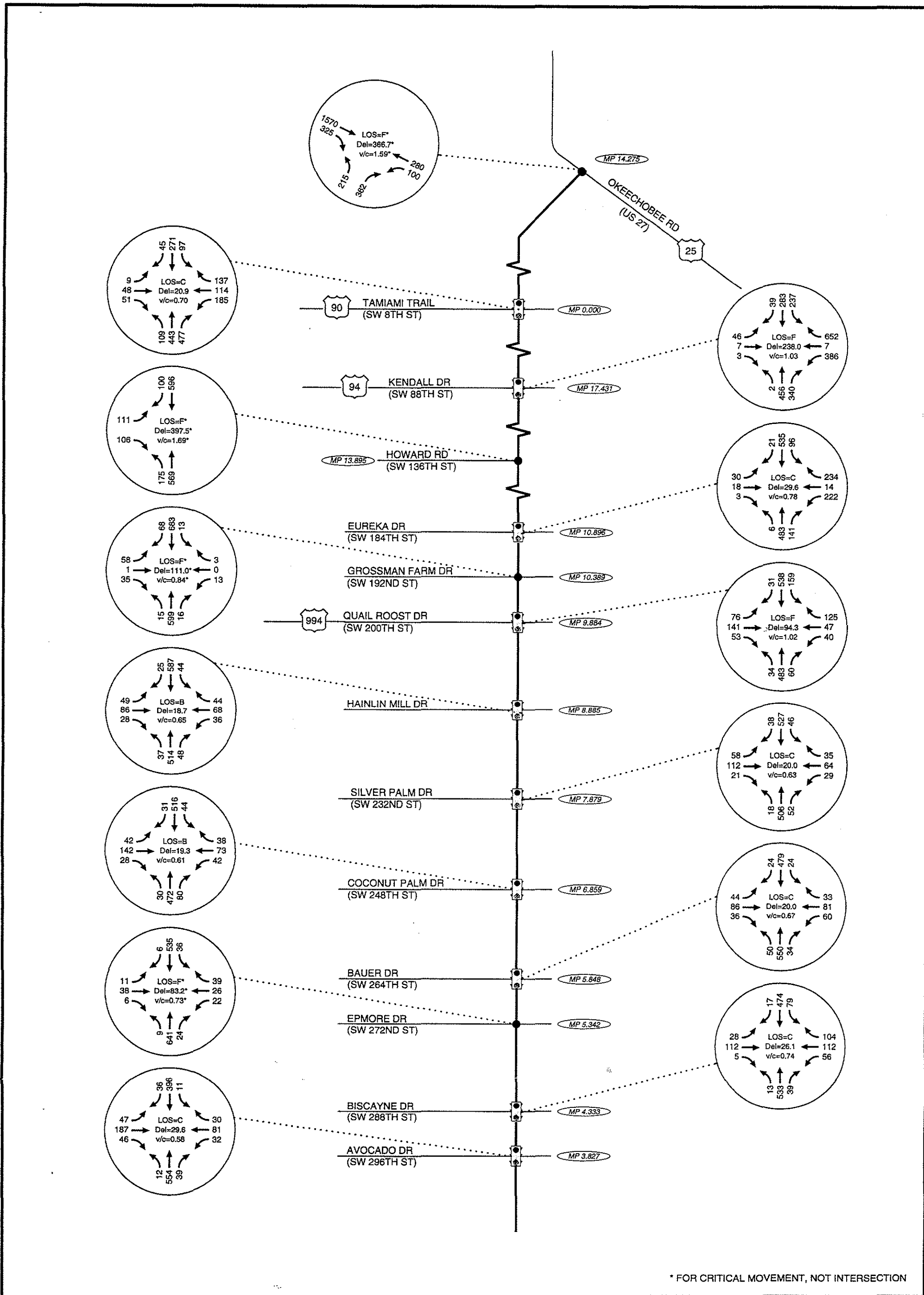
AUGUST 2002

FIGURE

15



4533KROME-LOS



\* FOR CRITICAL MOVEMENT, NOT INTERSECTION

#### LEGEND

LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
 CRITICAL MOVEMENT DELAY (UNSIGNALIZED)  
 v/c = CRITICAL VOLUME-TO-CAPACITY RATIO

#### INTERSECTION LEVEL OF SERVICE FOR THE MORNING PEAK HOUR

KROME AVE - EXISTING LOS ANALYSIS  
 MIAMI-DADE COUNTY, FLORIDA  
 AUGUST 2002

FIGURE

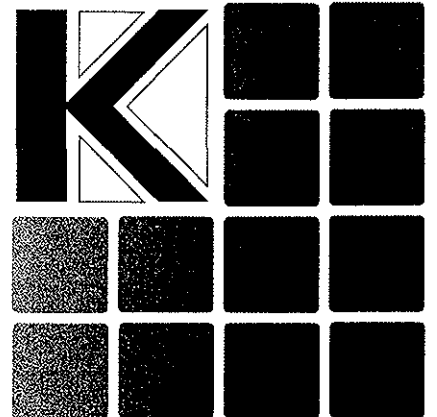
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4533KROME-LOS

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**Section 9**  
References





## References

1. *Quality/Level of Service Handbook*, Florida Department of Transportation, 2002
2. *Manual on Uniform Traffic Studies*, Florida Department of Transportation, January 2000
3. *Highway Capacity Manual*, Transportation Research Board, 2000
4. *Manual on Uniform Traffic Control Devices – Millennium Edition*, US Department of Transportation-Federal Highway Administration, 2001

FDOT D6 Systems Planning

# Krome Avenue Existing LOS and Safety Analysis

Miami-Dade County, Florida

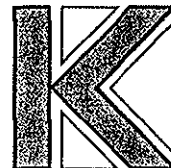
Prepared For:  
**Florida Department of Transportation, District Six**

Prepared By:  
**Kittelson & Associates, Inc.**  
110 E Broward Blvd, Suite 2410  
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Project Manager: John Zegeer  
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Project No. 4533.03

August 2002



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## EXECUTIVE SUMMARY

This report presents the conceptual designs and signal warrant analyses performed based on the recommendations made in the Krome Avenue Phase 2 and 3 Studies.

The recommendations from the conceptual design analysis are:

- Hainlin Mill Drive (SW 216 Street): The recommended project should proceed into the design phase.
- Quail Roost Drive (SW 200 Street): The recommended project should proceed into the design phase.
- Eureka Drive (SW 184 Street): The recommended project should proceed into the design phase.
- Kendall Drive (SW 88 Street): The recommended alternative should be further studied as part of a PD&E Study.
- Okeechobee Road (US 27): The maintenance department and the traffic operations division should study the need for and feasibility of the short-term and medium-term alternatives.

The recommendations from the signal warrant analysis are:

- Epmore Drive (SW 272<sup>nd</sup> Street): Signal not warranted.
- Grossman Farm Road (SW 192<sup>nd</sup> Street): Signal not warranted.
- Howard Road (SW 136<sup>th</sup> Street): Signal not warranted.
- Okeechobee Road (US 27): Signal not warranted.

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## 1.0 INTRODUCTION

The Krome Avenue Phase 4 Study was authorized to provide conceptual designs and cost estimates and signal warrant analyzes at the intersections recommended for further study in the Phase 2 and 3 Studies. Conceptual designs and cost estimates were prepared at the following intersections:

- Hainlin Mill Drive (SW 216 Street);
- Quail Roost Drive (SW 200 Street);
- Eureka Drive (SW 184 Street);
- Kendall Drive (SW 88 Street); and
- Okeechobee Road (US 27).

Signal warrant analyses were conducted at the following intersections:

- Epmore Drive (SW 272<sup>nd</sup> Street);
- Grossman Farm Road (SW 192<sup>nd</sup> Street);
- Howard Road (SW 136<sup>th</sup> Street); and
- Okeechobee Road (US 27).

The results and recommendations contained in this report are based on comments and input received from FDOT representatives in the following departments: Environmental Management, Systems Planning, Traffic Operations, and Design.

## 2.0 Conceptual Design and Cost Estimates

Conceptual designs and cost estimates were prepared at the following intersections:

- Hainlin Mill Drive (SW 216 Street);
- Quail Roost Drive (SW 200 Street);
- Eureka Drive (SW 184 Street);
- Kendall Drive (SW 88 Street); and
- Okeechobee Road (US 27).

In preparing the conceptual designs, the length of turn lanes on Krome Avenue were increased (where necessary) and proposed turn lanes on the intersection side streets were designed to meet FDOT Standard Index 301. The queue storage requirement for the turn lanes on Krome Avenue were based on the 95<sup>th</sup>-percentile queue length obtained from the 2020 intersection capacity analysis. The queue storage requirements for the turn lanes on intersection side streets were based on the 90<sup>th</sup>-percentile queue length (non-FIHS facilities) obtained from the 2020 intersection capacity analysis. Table 1 summarizes the queue storage requirements. It is noted that queue storage lengths were capped at 200 feet due to the fact that lengths greater than 200 feet, when added to the taper and deceleration length of the turn lane, begin to look like additional lanes to drivers.

Table 1. Queue Storage Requirements

Intersection	Side Street			Krome Avenue		
	Eastbound Left-Turn Lane	Westbound Right-Turn Lane	Westbound Left-Turn Lane	Northbound Right-Turn Lane	Northbound Left-Turn Lane	Southbound Left-Turn Lane
Hainlin Mill Drive (216 <sup>th</sup> Street)	100 ft	75 ft	75 ft	N/A	50 ft	50 ft
Quail Roost Drive (200 <sup>th</sup> Street)	100 ft	175 ft	75 ft	N/A	50 ft	200 ft
Eureka Drive (184 <sup>th</sup> Street)	50 ft	200 ft	200 ft	200 ft	50 ft	175 ft

In preparing the conceptual designs, aerial photography and right-of-way information provided by the FDOT was used. Conceptual cost estimates were based on previous cost estimates made by the FDOT on Krome Avenue at the intersections of SW 256<sup>th</sup> Street, SW 192<sup>nd</sup> Street, SW 168<sup>th</sup> Street, and SW 136<sup>th</sup> Street.

### 2.1 Hainlin Mill Drive (SW 216<sup>th</sup> Street)

Several alternative approach lane configurations were analyzed for Hainlin Mill Drive at the Krome Avenue intersection. The recommended configuration is shown in Figure 1. Both the east and west approaches of Hainlin Mill Drive have exclusive left-turn lanes that allow for overlapping left-turn movements. The provision of exclusive left-turn lanes will improve the capacity of the intersection and have a positive effect on safety conditions at the intersection.

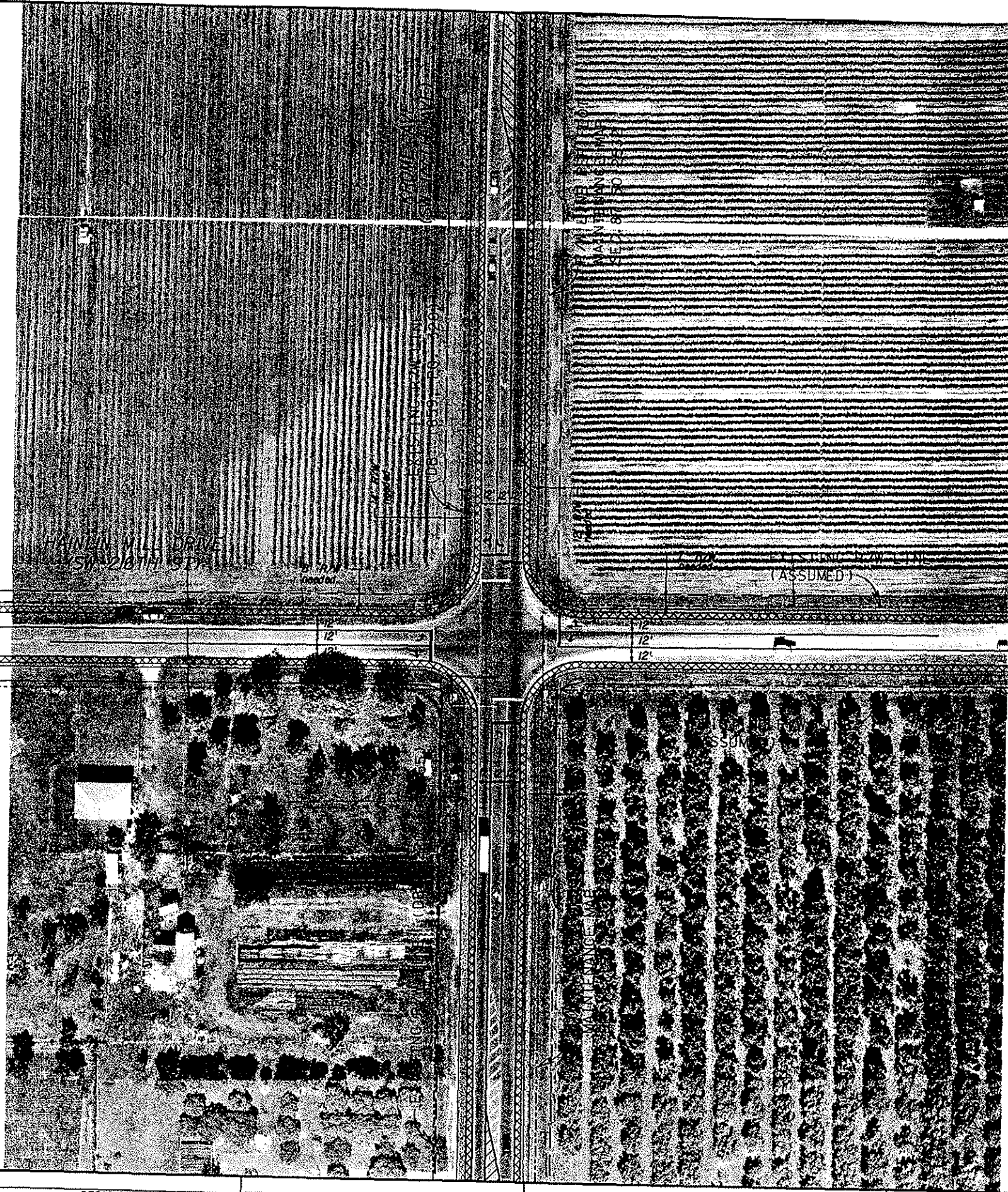
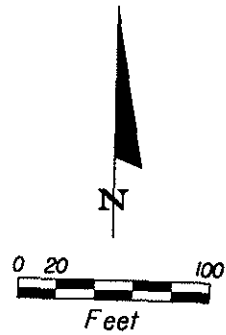
Other features of the recommended design include:

- Increasing the length of the existing left-turn lanes on Krome Avenue to meet the criteria described in FDOT Standard Index 301.
- Providing a 12-foot shoulder on Krome Avenue (5-foot paved, 7-foot grass).
- Providing an 8-foot shoulder on Hainlin Mill Drive (5-foot paved, 3-foot grass).
- The use of 50-foot radius returns at the intersection.
- Showing the impact of a 30-foot clear zone on Krome Avenue. The feasibility of purchasing right-of-way to maintain the clear zone will be decided during the design process.
- Showing the impact of an 18-foot clear zone on Hainlin Mill Drive. The feasibility of purchasing right-of-way to maintain the clear zone will be decided during the design process.



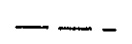
It is noted that the feasibility of using 11-foot lanes and the option of providing offset left-turning movements on Krome Avenue were discussed during the concept evaluation process. It was determined that these issues would be further explored during the design process.

The cost-estimate for the proposed improvement is approximately \$734,000. Figure 2 shows a summary of the items used in preparing the cost estimate.

**Recommendation:** This project should proceed into the design phase.



**LEGEND:**

-  DENOTES PAVED SHOULDER
-  DENOTES GRASS SHOULDER
-  DENOTES CLEAR ZONE LIMIT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

K

**Kittelson & Associates, Inc.**  
 Transportation Planning/Traffic Engineering  
 110 E. Broward Blvd, Suite 2410  
 Ft. Lauderdale, FL 33301  
 Telephone: (954) 765-1245

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID

**PLAN**  
**KROME AVE & HAINLIN MILL DR**  
**ALTERNATIVE 3**

SHEET  
NO.

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Krome Avenue Phase IV Analysis						
Location: Krome Avenue and Hainlin Mill Drive Intersection, Alternative 2						
Estimate by: Kittelson & Associates, Inc.						
Date: 30-Jan-03						
ITEM NUMBER	ITEM NAME	UNIT	QUANTITY	UNIT PRICE	COST	COMMENT
130	3	2 BORROW	CY	350 \$	6.12 \$	2,142.00 rework shoulders and radius returns
160	4	STAIBIL	SY	6150 \$	2.00 \$	12,300.00
285	705	7 SHLD BASE	SY	4100 \$	9.00 \$	36,900.00
285	713	327 WD BASE	SY	2100 \$	23.00 \$	48,300.00
300	1	3 TACK	GA	4100 \$	1.45 \$	5,945.00
327	70	5 MILLING	SY	4800 \$	2.50 \$	12,000.00
334	1	13 SURFACE	TN	500 \$	75.00 \$	37,500.00
334	1	13 SHLD SUR	TN	400 \$	75.00 \$	30,000.00
334	1	13 WD SUR	TN	450 \$	75.00 \$	33,750.00
337	7	5 FC	TN	1150 \$	72.00 \$	82,800.00
575	1	SOD	SY	3700 \$	1.28 \$	4,736.00
110	1	1 CLEAR/GRUB	AC	5 \$	20,000.00 \$	100,000.00 (based on previous FDOT estimates)
EX-ITEM		SIGNING, STRIPING, RPMs		1 \$	11,000.00 \$	11,000.00 (based on previous FDOT estimates)
EX-ITEM		WORK ZONE ITEMS		1 \$	51,000.00 \$	51,000.00 (based on previous FDOT estimates)
EX-ITEM		SIGNAL MODIFICATION		1 \$	75,000.00 \$	75,000.00 (two signal poles impacted)
EX-ITEM		MOWING, SEED & MULCH		1 \$	2,500.00 \$	2,500.00 (based on previous FDOT estimates)
TOTAL OF GENERATED ITEM COSTS					\$ 545,873.00	
DRAINAGE COSTS					\$ 34,000.00	(based on previous FDOT estimates)
TOTAL ROADWAY ITEMS					\$ 579,873.00	
TOTAL BRIDGE COSTS					\$ -	
SUBTOTAL (PRIOR TO MOT)					\$ 579,873.00	
MAINTENANCE OF TRAFFIC (15%)					\$ 86,980.95	
SUBTOTAL (PRIOR TO MOBILIZATION)					\$ 666,853.95	
MOBILIZATION (10%)					\$ 66,685.40	
TOTAL COST OF ESTIMATE					\$ 733,539.35	
NEEDED RIGHT-OF-WAY APPROXIMATION					36500 SQ FT	

It is noted that this estimate was prepared using assumptions and values consistent with previous cost estimates made by the FDOT on Krome Avenue. The methodology used is based on the Long Range Estimate (LRE) software and a construction cost estimate. Unit costs are consistent with the previous cost estimates made on Krome Avenue (SW 256th St, SW 192nd St, SW 168th St, and SW 136th St).

Figure 2. Cost Estimate for Hainlin Mill Drive (SW 216<sup>th</sup> Street)

## 2.2 Quail Roost Drive (SW 200<sup>th</sup> Street)

The primary recommendations at the intersection of Krome Avenue and Quail Roost Drive are the addition of an exclusive left-turn lane on the west approach and the addition of an exclusive right-turn lane on the east approach of Quail Roost Drive. The recommended configuration is shown in Figure 3. The provision of the exclusive left-turn lane and exclusive right-turn lane will improve the capacity of the intersection and have a positive effect on safety conditions at the intersection.

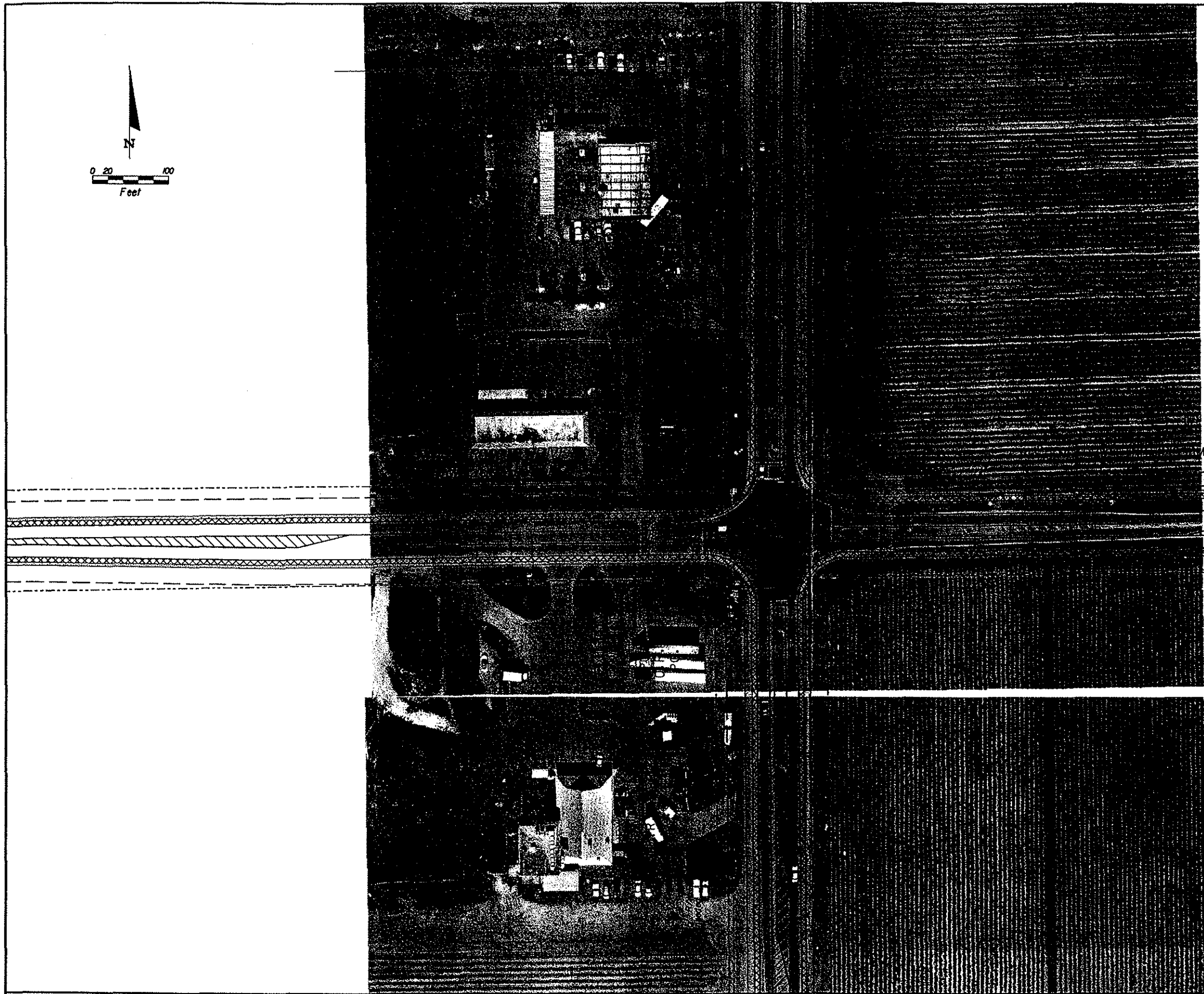
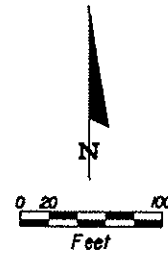
Other features of the recommended design include:

- Increasing the length of the existing left-turn lanes on Krome Avenue to meet the criteria described in FDOT Standard Index 301. This extension resulted in a significantly longer southbound left-turn lane that will be better able to accommodate current and future demand.
- Providing a 12-foot shoulder on Krome Avenue (5-foot paved, 7-foot grass).
- Providing an 8-foot shoulder on Quail Roost Drive (5-foot paved, 3-foot grass).
- The use of 50-foot radius returns at the intersection.
- Showing the impact of a 30-foot clear zone on Krome Avenue. The feasibility of purchasing right-of-way to maintain the clear zone will be decided during the design process.
- Showing the impact of a 24-foot clear zone on Quail Roost Drive. The feasibility of purchasing right-of-way to maintain the clear zone will be decided during the design process.

It is noted that the feasibility of using 11-foot lanes and the option of providing offset left-turning movements on Krome Avenue were discussed during the concept evaluation process. It was determined that these issues would be further explored during the design process.

The cost-estimate for the proposed improvement is approximately \$750,000. Figure 4 shows a summary of the items used in preparing the cost estimate.

**Recommendation:** This project should proceed into the design phase.



(MED)

(MED)

3' R/W needed

LEGEND:



DENOTES PAVED SHOULDER



DENOTES GRASS SHOULDER



DENOTES CLEAR ZONE LIMIT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



Kittelson & Associates, Inc.  
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110 E. Broward Blvd, Suite 2410  
Ft. Lauderdale, FL 33301  
Telephone: (954) 765-1245

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID

PLAN  
KROME AVE & QUAIL ROOST DR

SHEET NO.

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## Krome Avenue Phase IV Analysis

Location: Krome Avenue and Quail Roost Drive

Estimate by: Kittelson &amp; Associates, Inc.

Date: 30-Jan-03

ITEM NUMBER	ITEM NAME	UNIT	QUANTITY	UNIT PRICE	COST	COMMENT
130	3	2 BORROW	CY	370 \$	6.12 \$	2,264.40 rework shoulders and radius returns
160	4	STAIBIL	SY	6000 \$	2.00 \$	12,000.00
285	705	7 SHLD BASE	SY	4500 \$	9.00 \$	40,500.00
285	713	327 WD BASE	SY	1600 \$	23.00 \$	36,800.00
300	1	3 TACK	GA	4100 \$	1.45 \$	5,945.00
327	70	5 MILLING	SY	6200 \$	2.50 \$	15,500.00
334	1	13 SURFACE	TN	650 \$	75.00 \$	48,750.00
334	1	13 SHLD SUR	TN	450 \$	75.00 \$	33,750.00
334	1	13 WD SUR	TN	350 \$	75.00 \$	26,250.00
337	7	5 FC	TN	1300 \$	72.00 \$	93,600.00
575	1	SOD	SY	4500 \$	1.28 \$	5,760.00
110	1	1 CLEAR/GRUB	AC	5 \$	20,000.00 \$	100,000.00 (based on previous FDOT estimates)
EX-ITEM		SIGNING, STRIPING, RPMs	1 \$	11,000.00 \$	11,000.00 \$	(based on previous FDOT estimates)
EX-ITEM		WORK ZONE ITEMS	1 \$	51,000.00 \$	51,000.00 \$	(based on previous FDOT estimates)
EX-ITEM		SIGNAL MODIFICATION	1 \$	75,000.00 \$	75,000.00 \$	(two signal poles impacted)
EX-ITEM		MOWING, SEED& MULCH	1 \$	2,500.00 \$	2,500.00 \$	(based on previous FDOT estimates)
TOTAL OF GENERATED ITEM COSTS					\$ 558,119.40	
DRAINAGE COSTS					\$ 34,000.00	(based on previous FDOT estimates)
TOTAL ROADWAY ITEMS					\$ 592,119.40	
TOTAL BRIDGE COSTS					\$ -	
SUBTOTAL (PRIOR TO MOT)					\$ 592,119.40	
MAINTENANCE OF TRAFFIC (15%)					\$ 88,817.91	
SUBTOTAL (PRIOR TO MOBILIZATION)					\$ 680,937.31	
MOBILIZATION (10%)					\$ 68,093.73	
TOTAL COST OF ESTIMATE					\$ 749,031.04	
NEEDED RIGHT-OF-WAY APPROXIMATION					23400 SQ FT	

It is noted that this estimate was prepared using assumptions and values consistent with previous cost estimates made by the FDOT on Krome Avenue. The methodology used is based on the Long Range Estimate (LRE) software and a construction cost estimate. Unit costs are consistent with the previous cost estimates made on Krome Avenue (SW 256th St, SW 192nd St, SW 168th St, and SW 136th St).

Figure 4. Quail Roost Drive (SW 200<sup>th</sup> Street) Cost Estimate



### 2.3 Eureka Drive (SW 184<sup>th</sup> Street)

The primary recommendations at the intersection of Krome Avenue and Eureka Drive are the addition of an exclusive right-turn lane on the south approach of Krome Avenue (northbound traffic), the addition of an exclusive left-turn lane on the west approach and the addition of an exclusive left-turn lane on the east approach of Eureka Drive. The recommended configuration is shown in Figure 5. The provision of the exclusive right-turn lane on the south approach of Krome Avenue will increase the capacity of the intersection. Adding left-turn lanes on Eureka Drive and realigning the intersection so that the left-turn movements overlap will improve the capacity and overall safety of the intersection.

Other features of the recommended design include:

- Increasing the length of the existing left-turn lanes on Krome Avenue to meet the criteria described in FDOT Standard Index 301. This extension resulted in a significantly longer southbound left-turn lane that will be better able to accommodate current and future demand.
- Providing a 12-foot shoulder on Krome Avenue (5-foot paved, 7-foot grass).
- Providing an 8-foot shoulder on Eureka Drive (5-foot paved, 3-foot grass).
- The use of 50-foot radius returns at the intersection.
- Showing the impact of a 30-foot clear zone on Krome Avenue. The feasibility of purchasing right-of-way to maintain the clear zone will be decided during the design process.
- Showing the impact of a 24-foot clear zone on Eureka Drive. The feasibility of purchasing right-of-way to maintain the clear zone will be decided during the design process.




It is noted that the feasibility of using 11-foot lanes and the option of providing offset left-turning movements on Krome Avenue were discussed during the concept evaluation process. It was determined that these issues would be further explored during the design process.

The cost-estimate for the proposed improvement is approximately \$917,000. Figure 6 shows a summary of the items used in preparing the cost estimate.

**Recommendation:** This project should proceed into the design phase.



EXISTING R/W LINE  
(ASSUMED)

- LEGEND:
-  DENOTES PAVED SHOULDER
  -  DENOTES GRASS SHOULDER
  -  DENOTES CLEAR ZONE LIMIT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID

**PLAN**

**KROME AVE & EUREKA DR**

SHEET NO.

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Krome Avenue Phase IV Analysis							
Location: Krome Avenue and Eureka Drive							
Estimate by: Kittelson & Associates, Inc.							
Date: 30-Jan-03							
ITEM NUMBER	ITEM NAME	UNIT	QUANTITY	UNIT PRICE	COST	COMMENT	
130	3	2 BORROW	CY	400 \$	6.12 \$	2,448.00	rework shoulders and radius returns
160	4	STAIBIL	SY	7600 \$	2.00 \$	15,200.00	
285	705	7 SHLD BASE	SY	4300 \$	9.00 \$	38,700.00	
285	713	327 WD BASE	SY	3300 \$	23.00 \$	75,900.00	
300	1	3 TACK	GA	5100 \$	1.45 \$	7,395.00	
327	70	5 MILLING	SY	5100 \$	2.50 \$	12,750.00	
334	1	13 SURFACE	TN	550 \$	75.00 \$	41,250.00	
334	1	13 SHLD SUR	TN	450 \$	75.00 \$	33,750.00	
334	1	13 WD SUR	TN	650 \$	75.00 \$	48,750.00	
337	7	5 FC	TN	1350 \$	72.00 \$	97,200.00	
575	1	SOD	SY	4300 \$	1.28 \$	5,504.00	
110	1	1 CLEAR/GRUB	AC	5 \$	20,000.00	\$ 100,000.00	(based on previous FDOT estimates)
EX-ITEM		SIGNING, STRIPING, RPMs	1	\$	11,000.00	\$ 11,000.00	(based on previous FDOT estimates)
EX-ITEM		WORK ZONE ITEMS	1	\$	51,000.00	\$ 51,000.00	(based on previous FDOT estimates)
EX-ITEM		SIGNAL MODIFICATION	1	\$	150,000.00	\$ 150,000.00	(four signal poles impacted)
EX-ITEM		MOWING, SEED& MULCH	1	\$	2,500.00	\$ 2,500.00	(based on previous FDOT estimates)
TOTAL OF GENERATED ITEM COSTS						\$ 690,847.00	
DRAINAGE COSTS						\$ 34,000.00	(based on previous FDOT estimates)
TOTAL ROADWAY ITEMS						\$ 724,847.00	
TOTAL BRIDGE COSTS						\$ -	
SUBTOTAL (PRIOR TO MOT)						\$ 724,847.00	
MAINTENANCE OF TRAFFIC (15%)						\$ 108,727.05	
SUBTOTAL (PRIOR TO MOBILIZATION)						\$ 833,574.05	
MOBILIZATION (10%)						\$ 83,357.41	
TOTAL COST OF ESTIMATE						\$ 916,931.46	
NEEDED RIGHT-OF-WAY APPROXIMATION						48400 SQ FT	

It is noted that this estimate was prepared using assumptions and values consistent with previous cost estimates made by the FDOT on Krome Avenue. The methodology used is based on the Long Range Estimate (LRE) software and a construction cost estimate. Unit costs are consistent with the previous cost estimates made on Krome Avenue (SW 256th St, SW 192nd St, SW 168th St, and SW 136th St).

Figure 6. Eureka Drive (SW 184<sup>th</sup> Street) Cost Estimate

#### **2.4 Kendall Drive (SW 88<sup>th</sup> Street)**

Due to the significant impacts associated with many of the alternatives proposed at this intersection during previous stages of the overall Krome Avenue study, an analysis was conducted to determine the alternative that would improve the capacity of the intersection without requiring major changes to the existing cross section of Krome Avenue. The results of this analysis are shown in Figure 7. As shown in the figure, alternative two consists of the conversion of the north approach (southbound traffic) from a right-turn lane, a through lane, and a left-turn lane to a shared through-right lane and two exclusive left-turn lanes. This provides the most effective increase in capacity while eliminating the need to widen Krome Avenue to a four-lane section through the intersection influence area.

Figure 8 shows the proposed configuration of the intersection and Figure 9 shows the length of the impacted area along Krome Avenue of the alternative (due to the need to transition the through-right lane and shadow the left-turn lanes). The estimated cost of the intersection improvement is approximately \$1,011,000 (shown in Figure 10). Due to the potential impacts in the vicinity of the intersection (drainage canal, grade issues, wildlife), it was determined that this alternative should be further studied during a Project Development and Environment (PD&E) Study. It was also noted during the review process that the right-of-way boundaries being shown should be confirmed during the PD&E Study process.

**Recommendation:** This project should be further studied during a PD&E Study.

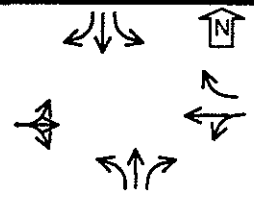
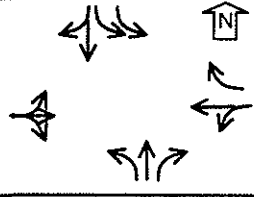
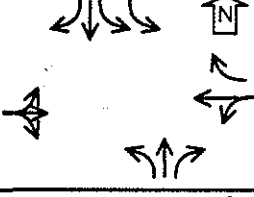
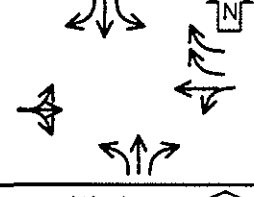
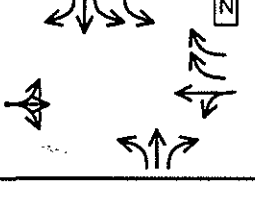
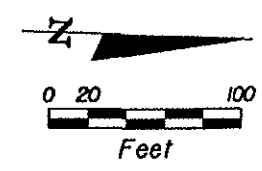
Alternative #	Added lanes or Improvements	Configuration	2010		2020		Construction Needs / Impacts
			Critical v/c	LOS	Critical v/c	LOS	
1	None		1.14	D	1.2	F	None
2	Double SB left-turns. Merge southbound through- and right-turn lane.		0.94	C	0.99	D	Realign southbound lane configurations. Add double southbound left-turn lanes. Combine southbound through lane with right-turn lane and construct southbound departure lane.
3	Double SB left-turns		0.94	C	0.98	D	Construct double southbound left turns. Realign intersection.
4	Double WB right-turns		1.11	D	1.21	E	Construct double westbound right turns. Add northbound departure lane.
5	Double SB left-turns. Double WB right-turns		0.81	C	0.89	C	Construct double southbound left turns. Construct double westbound right turns. Add northbound departure lane, realign intersection

Figure 7. Krome Avenue/Kendall Drive Level of Service Summary



DENOTES PAVED SHOULDER  
DENOTES GRASS SHOULDER

--- DENOTES CLEAR ZONE LIMIT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID




**PLAN**  
**KROME AVE & N. KENDALL DR**

**SHEET NO.**





LEGEND:

-  DENOTES PAVED SHOULDER
-  DENOTES GRASS SHOULDER
-  DENOTES CLEAR ZONE LIMIT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID

PLAN

KROME AVE & N. KENDALL DR

SHEET NO.

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## Krome Avenue Phase IV Analysis

Location: Krome Avenue and Kendall Drive

Estimate by: Kittelson &amp; Associates, Inc.

Date: 30-Jan-03

ITEM NUMBER	ITEM NAME	UNIT	QUANTITY	UNIT PRICE	COST	COMMENT
130	3	2 BORROW	CY	450 \$	6.12 \$	2,754.00 rework shoulders and radius returns
160	4	STAIBIL	SY	6250 \$	2.00 \$	12,500.00
285	705	7 SHLD BASE	SY	5100 \$	9.00 \$	45,900.00
285	713	327 WD BASE	SY	1150 \$	23.00 \$	26,450.00
300	1	3 TACK	GA	4200 \$	1.45 \$	6,090.00
327	70	5 MILLING	SY	17300 \$	2.50 \$	43,250.00
334	1	13 SURFACE	TN	1750 \$	75.00 \$	131,250.00
334	1	13 SHLD SUR	TN	550 \$	75.00 \$	41,250.00
334	1	13 WD SUR	TN	250 \$	75.00 \$	18,750.00
337	7	5 FC	TN	3000 \$	72.00 \$	216,000.00
575	1	SOD	SY	7200 \$	1.28 \$	9,216.00
110	1	1 CLEAR/GRUB	AC	5 \$	20,000.00	100,000.00 (based on previous FDOT estimates)
EX-ITEM		SIGNING, STRIPING, RPMs	1 \$	11,000.00	11,000.00	(based on previous FDOT estimates)
EX-ITEM		WORK ZONE ITEMS	1 \$	51,000.00	51,000.00	(based on previous FDOT estimates)
EX-ITEM		SIGNAL MODIFICATION	1 \$	50,000.00	50,000.00	(signal head and phasing modification)
EX-ITEM		MOWING, SEED & MULCH	1 \$	2,500.00	2,500.00	(based on previous FDOT estimates)
TOTAL OF GENERATED ITEM COSTS					\$ 765,410.00	
DRAINAGE COSTS					\$ 34,000.00	(based on previous FDOT estimates)
TOTAL ROADWAY ITEMS					\$ 799,410.00	
TOTAL BRIDGE COSTS					\$ -	
SUBTOTAL (PRIOR TO MOT)					\$ 799,410.00	
MAINTENANCE OF TRAFFIC (15%)					\$ 119,911.50	
SUBTOTAL (PRIOR TO MOBILIZATION)					\$ 919,321.50	
MOBILIZATION (10%)					\$ 91,932.15	
TOTAL COST OF ESTIMATE					\$ 1,011,253.65	
NEEDED RIGHT-OF-WAY APPROXIMATION					3100 SQ FT	

It is noted that this estimate was prepared using assumptions and values consistent with previous cost estimates made by the FDOT on Krome Avenue. The methodology used is based on the Long Range Estimate (LRE) software and a construction cost estimate. Unit costs are consistent with the previous cost estimates made on Krome Avenue (SW 256th St, SW 192nd St, SW 168th St, and SW 136th St).

Figure 10. Kendall Drive (SW 88<sup>th</sup> Street) Cost Estimate



## 2.5 Okeechobee Road (US 27)

A signal warrant analysis at the Krome Avenue/Okeechobee Road intersection was conducted for this study and is presented in Section 3.4 of this report. Due to the significant geometric and driver related issues associated with the Krome Avenue/Okeechobee Road intersection, this analysis considered a series of short-term alternatives that improve the visibility of the intersection and midterm alternatives that alert drivers to the presence of the intersection through the use of physical and visual queues. The recommended short-term alternatives are shown in Figure 11 and the recommended medium-term alternatives are shown in Figure 12. The remainder of this section describes the assumptions used in determining the placement of recommended treatments.

### 2.5.1 Short Term Alternatives

The purpose of the following treatments is to improve the visibility of the existing intersection. Treatments include:

- Flashing signage warning of approaching intersection
  1. Detector based (activated by passing motorists at a distance upstream of the intersection)
  2. Solar powered for independent operation.
- Striping
  1. Verify that existing striping is suitable and in adequate repair. Consider raised pavement markers.

### Flashing Warning Signs

For sign placement, assume a travel speed of 60 mph (conservative for speeding or wandering attention) along US 27. This gives a deceleration-to-stop distance of 530 feet. Therefore, signs should be placed a minimum of 530 feet in advance of the intersection. If the distance of 530 feet is located in a turn lane or taper, the sign may be moved further upstream. Each sign will cost approximately \$5000 (including installation). This relatively high cost is due to the solar power source being included.

#### From the North on US 27

The distance at which to locate the flashing warning sign is measured from the intersection of Krome Avenue (the left turn lane) from the south on US 27 with the southbound through lane of US 27. A distance of 530 feet back from this point is in the right turn lane taper on US 27 and also within the influence area of the T-intersection upstream of the Krome Avenue intersection. Therefore, the flashing sign should be located 1,200 feet north of the intersection of the left-turn roadway into Krome Avenue and the southbound lanes of US 27.

#### From the South on US 27

Again, the 530 feet is located in the turn lane taper from US 27 (the left-turn lane to Krome Avenue). Therefore, the sign should be located in the nearest typical section approximately 800 feet from the Krome Avenue intersection.

*On Krome Avenue*

A distance of 530 feet from the intersection of the left-turning roadway of Krome Avenue and US 27 will be on a curved section of roadway. To ensure an undistracted viewpoint, the sign should be located 750 feet south west of the intersection.

**Loop Detectors**

Assuming 3 seconds between the activation of the sign and the perception of the sign by the driver. The travel speed of 60 mph is equivalent to 88 feet/second and so the distance required to perceive the sign is approximately 300 feet. Therefore, the loop detector should be set 300 feet upstream of the warning sign it will trigger on all three legs of the intersection. Each loop detector will cost approximately \$3000.

**Striping**

The necessity of enhanced striping will depend on the actual site conditions, especially at night. If the existing striping is not highly reflective, conventional high reflectivity striping may suffice to treat the problem. Consideration should also be given to using raised pavement markers through the intersection area. US 27 has priority for enhanced striping since that road has a straight, high-speed alignment compared to the t-intersection encountered by Krome Avenue.

*From the South on US 27*

The enhanced striping should commence at the same location as the proposed loop detector for the flashing warning signs and should continue through to the northern side of the minor road t-junction

*From the North on US 27*

The enhanced striping should again commence at the loop detector but should continue to the end of the additional lane to the south. (Note - The exact distance to the end of that lane is not known from the aerial available).

**2.5.2 Medium-term Alternatives****Lighting**

Lighting would be placed on all roadway approaches. Full illumination should commence at the flashing intersection warning signs with appropriate advance illumination to provide lighting transition. A detailed lighting analysis should be performed to determine the luminaries and spacing needs for this alternative. Costs could not be determined due to the uncertain requirements of the site.

**Rumble Strips**

Rumble strips should be placed in sets comprised of at least 5 individual strips to differentiate them from isolated imperfections in the road surface. These sets should be placed on all approaches at the loop detectors for the warning signs and 300 feet (approximately 3 seconds traveling time at 60 mph) upstream of these loop detectors. The cost of the rumble strips is approximately \$1000 per strip (\$5000+ per set)

**Cross-sectional Treatments****Visual Gateway**

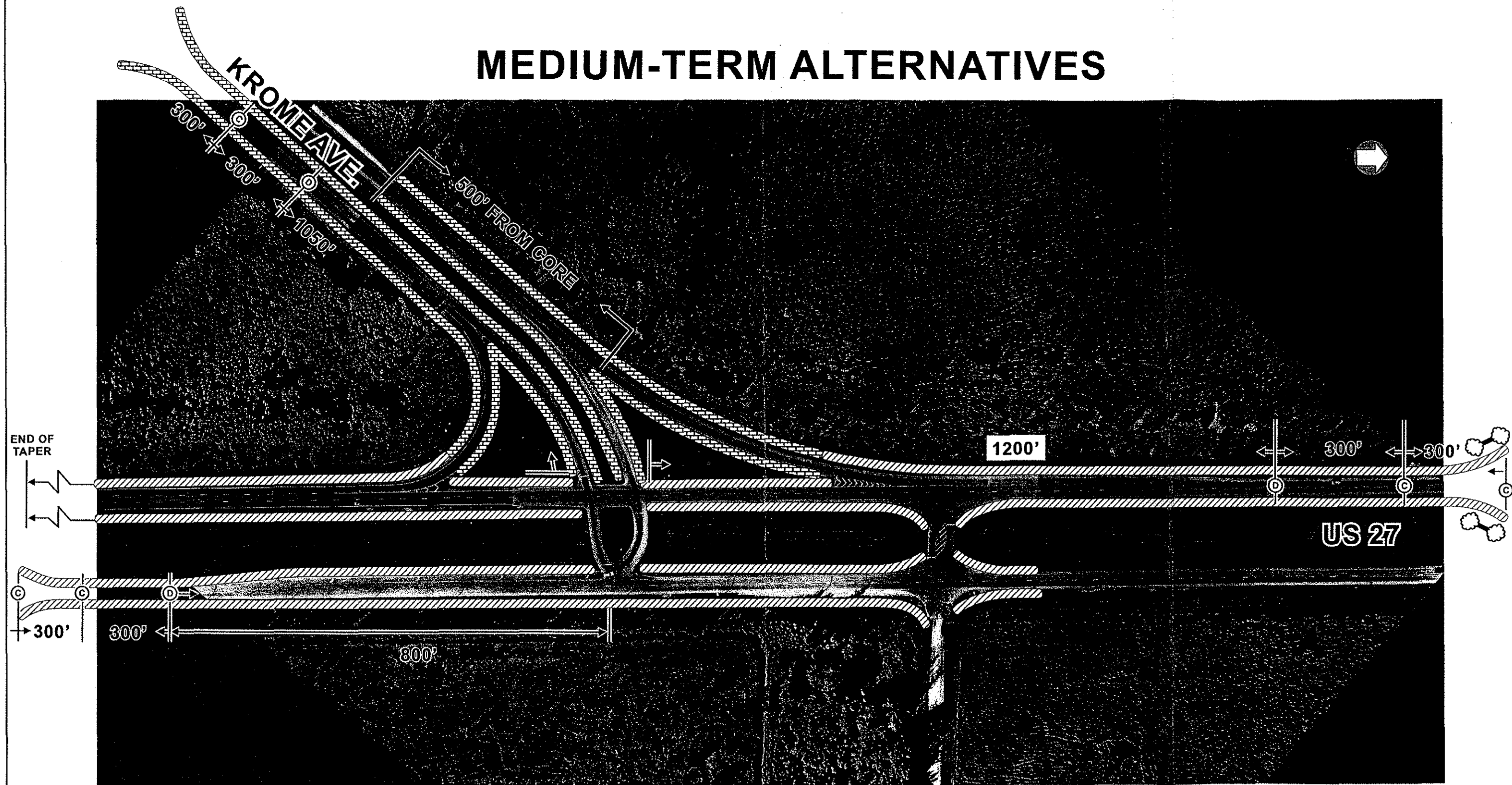
The visual gateway treatment comprising landscaping and signage should be located at the edge of "clear zone" of the roadway without intruding into it. This treatment is most useful for signaling the end of a lengthy stretch of rural roadway conditions on a through road. As such, this treatment is recommended only for the southbound carriageway on US 27. Therefore, a visual gateway should be placed at the location of the first rumble strip on the northern approach (300 feet upstream of loop detectors) to the intersection. The cost of the gateway treatment will be approximately \$5000 (it is noted that the cost of a gateway treatment is very dependent on the materials used and vegetation planted).

**Visual Funnel**

The visual funnel effect created by the introduction of curbing is appropriate for both US 27 and Krome Avenue, although priority should be given to US 27. To achieve the desired visual funnel effect, the curbing is required on both sides of the roadway. For all approaches, the curbing should commence at the upstream set of rumble strips. At the upstream end the curbing should be flared from the edge of the clear zone to the edge of the shoulder. Over the remainder of the curb length the alignment will abut the shoulder lane.

**Recommendation:** The maintenance department and the traffic operations division should study the need for and feasibility of the short-term and medium-term alternatives.

# MEDIUM-TERM ALTERNATIVES



(C) = RUMBLE STRIP SET

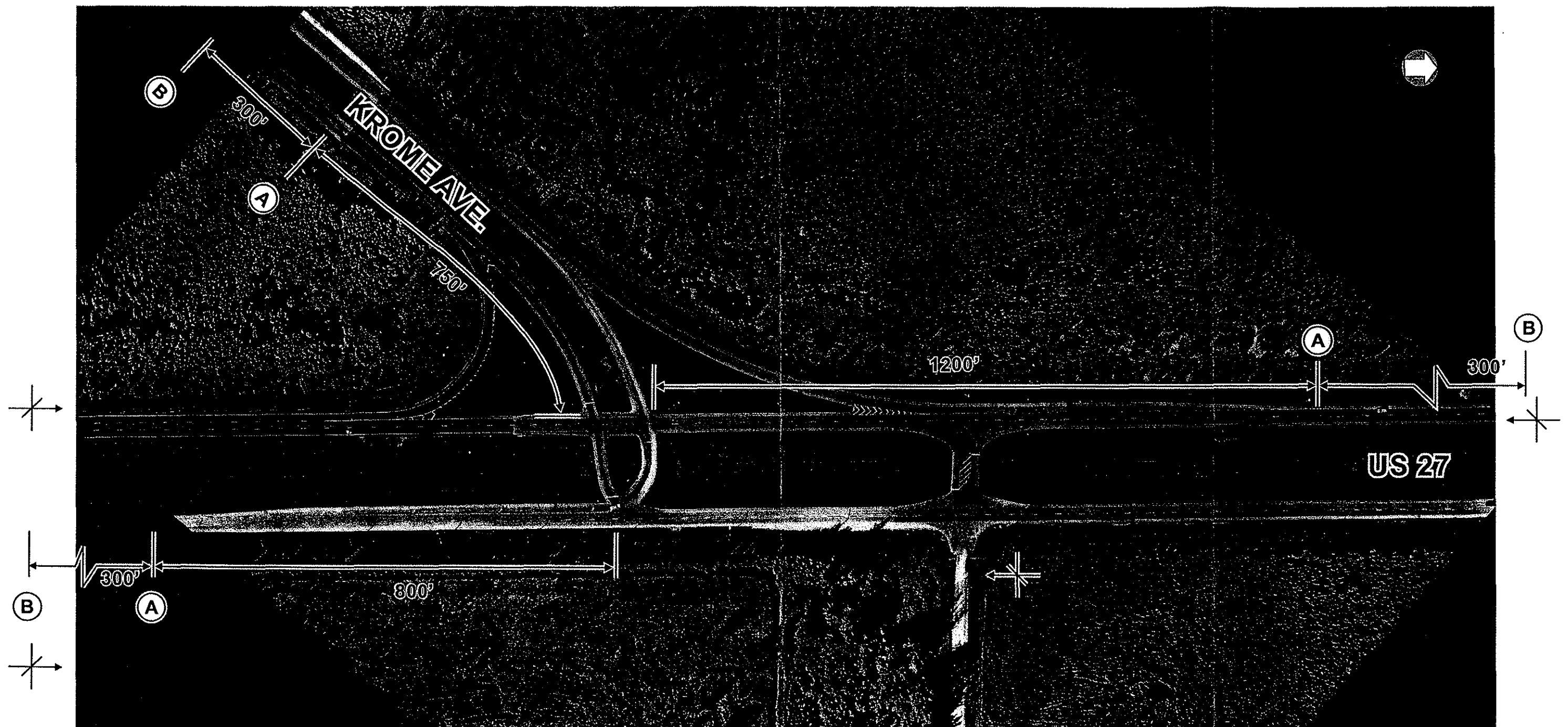
(D) = EDGE OF FULL ILLUMINATION ZONE

▨ = HIGH PRIORITY CURBING

▤ = LOW PRIORITY CURBING

☁ = GATEWAY TREATMENT

# SHORT-TERM ALTERNATIVES



(A) = INTERSECTION WARNING SIGN WITH FLASHERS

(B) = LOOP DETECTOR

✂ = BEGINNING/END OF REFLECTIVE STRIPING/  
RAISED PAVEMENT MARKERS

### 3.0 SIGNAL WARRANT ANALYSIS

Based on the recommendations made in the Krome Avenue Phase 2 and 3 reports, signal warrant analyses were conducted at the following intersections:

- Epmore Drive (SW 272<sup>nd</sup> Street);
- Grossman Farm Road (SW 192<sup>nd</sup> Street);
- Howard Road (SW 136<sup>th</sup> Street); and
- Okeechobee Road (US 27).

The signal warrant methodology as outlined in the year 2000 *Manual of Uniform Traffic Control Devices* (MUTCD) was used for the signal warrant analysis. The methodology is a guideline to assist traffic engineers in determining when a traffic signal should be installed or removed. The warrant analyses considered traffic volumes and crash experience at the study intersections that were based on conditions found during an average day. It is noted that the FDOT Manual on Uniform Traffic Studies (MUTS) was also used to provide guidance in conducting this study.

Table 2 provides a summary of the results of the applicable signal warrants that were analyzed at the study intersections. For the purpose of this study, Krome Avenue was considered the major road except at its intersection with Okeechobee Road, where Okeechobee Road was considered the major road.

As shown in Table 2, the four-hour warrant was met for all of the intersections, whereas the eight-hour warrant was only met for the Krome Avenue/ Okeechobee Road intersection. None of the intersections met the warrant for a signal based on crash experience. Appendix A contains the signal warrant analysis worksheets and crash diagrams for each of the study intersections.

**Table 2. Signal Warrant Analysis Summary**

Warrant #	Description	Epmore Drive/ SW 272 <sup>nd</sup>	Grossman Farm Road/ SW 192 <sup>nd</sup>	Howard Drive/ SW 136 <sup>th</sup>	Okeechobee Road/ US27
1	8-Hour Vehicular Volume	No*	No*	No*	Yes*
2	4-Hour Vehicular Volume	Yes	Yes	Yes	Yes
7	Crash Experience	No	No	No	No
<b>Overall</b>	<b>Recommendation for a traffic signal</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

\*Condition A was analyzed for 100%, 80%, and 70% conditions.

The following is a summary of the potential signal warrants and their applicability to the Krome Avenue Corridor:

Warrant 1, Eight-Hour Vehicular Volume:

Warrant 1 requires that a certain level of traffic be maintained on the major and minor street for each of any 8 hours of an average day. The major street and minor-street volumes shall be the same 8 hours for each condition. The two conditions relevant to this study is as follows:

- Condition A is intended for application where a large volume of intersecting traffic is the principle reason to consider installing a traffic control signal.
- Condition B is intended for application where the traffic volume on the major street is so heavy that traffic on the minor street suffers excessive delay or conflict in entering the major stream.

Warrant 2, Four-Hour Vehicular Volume:

Warrant 2 requires that a certain level of traffic be maintained on the major and minor street for each of any 4 hours of an average day. Warrant 2 states that 80 vehicles per hour (vph) apply as the lower threshold volume for a minor street approach.

Warrant 3, Peak Hour:

Warrant 3 is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. The MUTCD states, *"this signal warrant shall be applied only in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time."* Warrant 3 is not applicable to the study intersections along Krome Avenue.

Warrant 4, Pedestrian Volume:

This warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street. Warrant 4 is not applicable to the study intersections along Krome Avenue.

Warrant 5, School Warrant:

This warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal. Warrant 5 is not applicable to the study intersections along Krome Avenue.

Warrant 6, Coordinated Signal System:

Progressive movement in a coordinated system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles. Warrant 6 is not applicable to the study intersections along Krome Avenue.

Warrant 7, Crash Experience:

The Crash Experience conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal. Criteria for this warrant include the types of crashes (five crashes within 12 months) susceptible to correction by a traffic signal.

Warrant 8, Roadway Network:

Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network. Warrant 8 is not applicable to the study intersections along Krome Avenue.

**3.1 Epmore Drive (SW 272<sup>nd</sup> Street) Analysis****3.1.1 Eight-Hour Vehicular Volume**

As shown in Appendix A, the intersection of Krome Avenue and Epmore Drive does not meet the warrant for a signal based on the eight-hour vehicular volume. This is based on the warrant analysis conducted for Condition A. Condition B was not analyzed because the delay suffered by the minor street approaches was not considered significant. This finding was based on field reviews as well as peak hour level of service analyses conducted at the intersection.

**3.1.2 Four-Hour Vehicular Volume**

The warrant based on the four-hour vehicular volume is met for a total of four hours during the day. The worksheet for the four-hour vehicular volume warrant is summarized in Appendix A.

**3.1.3 Crash Experience**

As indicated in Table 3, the intersection of Krome Avenue and Epmore Drive did not experience five or more crashes susceptible to correction by a traffic signal within a 12-month period. Crashes susceptible to correction by a traffic signal typically include angle and left-turn crashes. Appendix A contains a detailed crash diagram for the Krome Avenue and Epmore Drive intersection.

**Table 3: Crash Summary for Krome Avenue and Epmore Drive**

Crash Type	Analysis Year				
	1995	1996	1997	1998	1999
Rear End			3		
Angle	1	2	2	3	3
Left Turn			1		
Sideswipe	1			1	
Others				1	1
<b>Total</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>4</b>

**3.1.4 Signal Warrant Conclusion**

A signal is not recommended at the intersection of Krome Avenue and Epmore Drive. This conclusion was based on the fact that signal warrants were not met for the eight-hour and crash experience analyses.



### 3.2 Grossman Farm Road (SW 192<sup>nd</sup> Street) Analysis

#### 3.2.1 Eight-Hour Vehicular Volume

As shown in Appendix A, the intersection of Krome Avenue and Grossman Farm Road does not meet the warrant for a signal based on the eight-hour vehicular volumes. This is based on the warrant analysis conducted for Condition A. Condition B was not analyzed because the delay suffered by the minor street approaches was not considered significant. This finding was based on field reviews as well as peak hour level of service analyses conducted at the intersection.

#### 3.2.2 Four-Hour Vehicular Volume

The warrant based on the four-hour vehicular volumes is met for a total of thirteen hours during the day. The worksheet for the four-hour vehicular volume warrant is summarized in Appendix A.

#### 3.2.3 Crash Experience

As indicated in Table 4, the intersection of Krome Avenue and Grossman Farm Road did not experience five or more crashes susceptible to correction by a traffic signal within a 12-month period. Crashes susceptible to correction by a traffic signal typically include angle and left-turn crashes. Appendix A contains a detailed crash diagram for the Krome Avenue and Grossman Farm Road intersection.

**Table 4: Crash Summary for Krome Avenue and Grossman Farm Road**

Crash Type	Analysis Year				
	1995	1996	1997	1998	1999
Rear End	1	1		1	
Angle		1		1	2
Left Turn			1		1
Right Turn			1		
Sideswipe			1	1	
Others	1	1			2
<b>Total</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>5</b>

#### 3.2.4 Signal Warrant Conclusion

A signal is not recommended at the intersection of Krome Avenue and Grossman Farm Road. This conclusion was principally based on the fact that the signal warrants were not met for the eight-hour and crash experience analyses.

### 3.3 Howard Road (SW 136<sup>th</sup> Street) Analysis

#### 3.3.1 Eight-Hour Vehicular Volume

As shown in Appendix A, the intersection of Krome Avenue and Howard Road does not meet the warrant for a signal based on the eight-hour vehicular volumes. This is based on the warrant analysis conducted for Condition A. Condition B was not analyzed because the delay suffered by the minor street approaches was not considered significant. This finding was based on field reviews as well as peak hour level of service analyses conducted at the intersection.

#### 3.3.2 Four-Hour Vehicular Volume

The warrant based on the four-hour vehicular volumes is met for a total of thirteen hours during the day. The worksheet for the four-hour vehicular volume warrant is summarized in Appendix A.

#### 3.3.3 Crash Experience

As indicated in Table 5, the intersection of Krome Avenue and Howard Road did not experience five or more crashes susceptible to correction by a traffic signal within a 12-month period. Crashes susceptible to correction by a traffic signal typically include angle and left-turn crashes. Appendix A contains a detailed crash diagram for the Krome Avenue and Howard Road intersection.

**Table 5: Crash Summary for Krome Avenue and Howard Road**

Crash Type	Analysis Year				
	1995	1996	1997	1998	1999
Rear End	2				
Angle	1	2	1		1
Left Turn	1	1			
Sideswipe					1
Others	1			1	1
<b>Total</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>3</b>

#### 3.3.4 Signal Warrant Conclusion

A signal is not recommended at the intersection of Krome Avenue and Howard Road. This conclusion was principally based on the fact that the signal warrants were not met for the eight-hour and crash experience analyses.

### 3.4 Okeechobee Road (US 27) Analysis

#### 3.4.1 Eight-Hour Vehicular Volume

For the analysis of Krome Avenue and Okeechobee Road, the vehicles performing a right turn from Krome Avenue to go east on Okeechobee Road as well as the vehicles making a right turn from Okeechobee Road to travel south on Krome Avenue were removed from the analysis. This is based on the geometric layout of the intersection that contains separate right-turn lanes at the intersection. As shown in Appendix A, the intersection of Krome Avenue and Okeechobee Road / US 27 meets the warrant for a signal based on the eight-hour vehicular volumes.

#### 3.4.2 Four-Hour Vehicular Volume

The warrant based on the four-hour vehicular volumes is also met for a total of fifteen hours during the day.

#### 3.4.3 Crash Experience

As indicated in Table 6, the intersection of Krome Avenue and Okeechobee Road did not experience five or more crashes susceptible to correction by a traffic signal within a 12-month period. Crashes susceptible to correction by a traffic signal typically include angle and left-turn crashes. Appendix A contains a detailed crash diagram for the Krome Avenue and Okeechobee Road intersection.

**Table 6: Crash Summary for Krome Avenue and Okeechobee Road**

Crash Type	Analysis Year				
	1995	1996	1997	1998	1999
Rear End	1	2	1	3	1
Angle		3	1	1	2
Left Turn					1
Sideswipe					1
Others					4
<b>Total</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>9</b>

#### 3.4.4 Signal Warrant Conclusion

A signal is not recommended at the intersection of Krome Avenue and Okeechobee Road. The following is a list of rationale for justifying the recommendation not to install a traffic signal:

- The crash warrant is not met. A signal at Krome Avenue and Okeechobee Road may increase the number of crashes;
- Unusual geometric layout of the intersection;
- Rural environment of the intersection;
- High speeds along Okeechobee Road;
- Driver expectancy along Okeechobee Road; and
- Infrequent presence of signals along Okeechobee Road

**Appendix A**  
**Signal Warrant Analysis Worksheets**

Krome Avenue &  
Epmore Drive (SW 272<sup>nd</sup> Street)



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Project #: 4533/7  
 Project Name: Krome Avenue Phase IV  
 Analyst: Marois Lombard  
 Date: 2/11/2003  
 File: H:\PROFILE\4533\Task 7 - Krome Phase 4\Task1-Signal Warrant Analysis\Sigal Warrants\Howard\_15th\Warrant Summary  
 Intersection: Krome Avenue & Epmore Drive (SW 272nd Dr)  
 Scenario: Existing - January 15, 2003

## Raw Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 AM	1:00 AM	26	40	2	3
1:00 AM	2:00 AM	7	30	3	3
2:00 AM	3:00 AM	27	18	0	3
3:00 AM	4:00 AM	14	30	2	4
4:00 AM	5:00 AM	47	47	1	5
5:00 AM	6:00 AM	148	85	7	9
6:00 AM	7:00 AM	665	236	19	55
7:00 AM	8:00 AM	658	608	47	92
8:00 AM	9:00 AM	460	559	45	60
9:00 AM	10:00 AM	388	439	21	42
10:00 AM	11:00 AM	390	381	30	41
11:00 AM	12:00 PM	446	524	24	47
12:00 PM	1:00 PM	499	486	29	47
1:00 PM	2:00 PM	476	511	37	51
2:00 PM	3:00 PM	554	470	32	95
3:00 PM	4:00 PM	509	570	44	92
4:00 PM	5:00 PM	550	716	34	82
5:00 PM	6:00 PM	491	798	72	72
6:00 PM	7:00 PM	382	587	43	59
7:00 PM	8:00 PM	238	285	15	26
8:00 PM	9:00 PM	216	248	16	30
9:00 PM	10:00 PM	158	143	11	27
10:00 PM	11:00 PM	109	121	10	15
11:00 PM	12:00 AM	64	81	1	17

## Warrant Summary

Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	No	-
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	Yes	No
#8	Roadway Network	No	-

## Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 AM	1:00 AM	26	40	2	3
1:00 AM	2:00 AM	7	30	3	3
2:00 AM	3:00 AM	27	18	0	3
3:00 AM	4:00 AM	14	30	2	4
4:00 AM	5:00 AM	47	47	1	5
5:00 AM	6:00 AM	148	85	7	9
6:00 AM	7:00 AM	665	236	19	55
7:00 AM	8:00 AM	658	608	47	92
8:00 AM	9:00 AM	460	559	45	60
9:00 AM	10:00 AM	388	439	21	42
10:00 AM	11:00 AM	390	381	30	41
11:00 AM	12:00 PM	446	524	24	47
12:00 PM	1:00 PM	499	486	29	47
1:00 PM	2:00 PM	476	511	37	51
2:00 PM	3:00 PM	554	470	32	95
3:00 PM	4:00 PM	509	570	44	92
4:00 PM	5:00 PM	550	716	34	82
5:00 PM	6:00 PM	491	798	72	72
6:00 PM	7:00 PM	382	587	43	59
7:00 PM	8:00 PM	238	285	15	26
8:00 PM	9:00 PM	216	248	16	30
9:00 PM	10:00 PM	158	143	11	27
10:00 PM	11:00 PM	109	121	10	15
11:00 PM	12:00 AM	64	81	1	17

## Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Daily

Warrant # 1- Eight Hour Volume

Traffic Volumes

Hour	Begin	End	Major Street	Minor Street	W/B
12:00 AM	1:00 AM	2:00 AM	26	40	3
1:00 AM	2:00 AM	3:00 AM	7	30	3
2:00 AM	3:00 AM	4:00 AM	27	18	0
3:00 AM	4:00 AM	5:00 AM	14	30	2
4:00 AM	5:00 AM	6:00 AM	47	47	1
5:00 AM	6:00 AM	7:00 AM	148	85	7
6:00 AM	7:00 AM	8:00 AM	645	236	19
7:00 AM	8:00 AM	9:00 AM	460	359	45
8:00 AM	9:00 AM	10:00 AM	388	439	21
9:00 AM	10:00 AM	11:00 AM	390	381	30
10:00 AM	11:00 AM	12:00 PM	446	524	24
11:00 AM	12:00 PM	1:00 PM	499	486	29
12:00 PM	1:00 PM	2:00 PM	476	511	37
1:00 PM	2:00 PM	3:00 PM	491	796	72
2:00 PM	3:00 PM	4:00 PM	382	587	43
3:00 PM	4:00 PM	5:00 PM	238	285	15
4:00 PM	5:00 PM	6:00 PM	216	248	16
5:00 PM	6:00 PM	7:00 PM	158	143	11
6:00 PM	7:00 PM	8:00 PM	109	121	10
7:00 PM	8:00 PM	9:00 PM	64	81	1
8:00 PM	9:00 PM	10:00 PM			17

Number of lanes for moving traffic on each approach (Major Street)

Number of lanes for moving traffic on each approach (Minor Street)

Warrant Factor

Row Index for VLOOKUP

Lookup Table

Condition A - Minimum Vehicular Volume			
Index	Major Street	Minor Street	Combined Major Street
1	1	1	100%
2	2 or more	1	80%
3	2 or more	2 or more	70%
4	1	2 or more	60%
Condition B - Intersection of Continuous Traffic			
Index	Major Street	Minor Street	Combined Major Street
1	1	1	100%
2	2 or more	1	80%
3	2 or more	2 or more	70%
4	1	2 or more	60%

Vehicles per hour on major street (100% Volume)

Vehicles per hour on major street (80% Volume)

Vehicles per hour on major street (70% Volume)

Vehicles per hour on higher-volume minor-street approach (100% Volume)

Vehicles per hour on higher-volume minor-street approach (80% Volume)

Vehicles per hour on higher-volume minor-street approach (70% Volume)

Vehicles per hour on higher-volume minor-street approach (100% Volume)

Vehicles per hour on higher-volume minor-street approach (80% Volume)

Vehicles per hour on higher-volume minor-street approach (70% Volume)

Vehicles per hour on higher-volume minor-street approach (100% Volume)

Vehicles per hour on higher-volume minor-street approach (80% Volume)

Vehicles per hour on higher-volume minor-street approach (70% Volume)

Vehicles per hour on higher-volume minor-street approach (100% Volume)

Vehicles per hour on higher-volume minor-street approach (80% Volume)

Calculations

Combined Major Street	Higher Minor Street	Major Plus Minor	Hourly Rank	Condition A			Condition B		
Major Street	Minor Street	Minor		100%	80%	70%	100%	80%	70%
66	3	69	21	N	N	N	N	N	N
37	3	40	24	N	N	N	N	N	N
45	3	48	22	N	N	N	N	N	N
44	4	48	22	N	N	N	N	N	N
94	5	99	20	N	N	N	N	N	N
233	9	242	18	N	N	N	N	N	N
901	95	956	11	N	N	N	N	N	N
1266	92	1358	2	N	N	N	Yes	Yes	Yes
1019	60	1079	6	N	N	N	N	N	N
827	42	869	12	N	N	N	N	N	N
771	41	812	13	N	N	N	N	N	N
970	47	1017	10	N	N	N	N	N	N
985	47	1032	8	N	N	N	N	N	N
987	51	1038	7	N	N	N	N	N	N
1024	95	1119	5	N	N	N	Yes	Yes	Yes
1079	92	1171	4	N	N	N	Yes	Yes	Yes
1266	82	1348	3	N	N	N	Yes	Yes	Yes
1289	72	1361	1	N	N	N	N	N	N
969	59	1028	9	N	N	N	N	N	N
523	26	549	14	N	N	N	N	N	N
464	30	494	15	N	N	N	N	N	N
301	27	328	16	N	N	N	N	N	N
230	15	245	17	N	N	N	N	N	N
145	17	162	19	N	N	N	N	N	N
70% Warrant Met				0	0	0	4	6	8

Warrant Summary

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Threshold	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	8	No	No
80%	B	750	75	4	8	No	No
70%	A	400	120	0	8	No	No
70%	B	600	60	6	8	No	No
70%	A	350	105	0	8	No	Yes
70%	B	525	53	8	8	Yes	Yes
Is Warrant #1 met based on the applicable warrant factor?							NO

750

600

525

75

60

53

# Warrant #2- Four Hour Volume

Traffic Volumes						Calculations			
Hour		Major Street		Minor Street		Combined	Higher Minor	Threshold	Is Threshold
Begin	End	NB	SB	EB	WB	Major Street	Street		Met?
12:00 AM	1:00 AM	26	40	2	3	66	3	348	No
1:00 AM	2:00 AM	7	30	3	3	37	3	369	No
2:00 AM	3:00 AM	27	18	0	3	45	3	363	No
3:00 AM	4:00 AM	14	30	2	4	44	4	364	No
4:00 AM	5:00 AM	47	47	1	5	94	5	328	No
5:00 AM	6:00 AM	148	85	7	9	233	9	241	No
6:00 AM	7:00 AM	665	236	19	55	901	55	60	No
7:00 AM	8:00 AM	658	608	47	92	1266	92	60	Yes
8:00 AM	9:00 AM	460	559	45	60	1019	60	60	No
9:00 AM	10:00 AM	388	439	21	42	827	42	60	No
10:00 AM	11:00 AM	390	381	30	41	771	41	65	No
11:00 AM	12:00 PM	446	524	24	47	970	47	60	No
12:00 PM	1:00 PM	499	486	29	47	985	47	60	No
1:00 PM	2:00 PM	476	511	37	51	987	51	60	No
2:00 PM	3:00 PM	554	470	32	95	1024	95	60	Yes
3:00 PM	4:00 PM	509	570	44	92	1079	92	60	Yes
4:00 PM	5:00 PM	550	716	34	82	1266	82	60	Yes
5:00 PM	6:00 PM	491	798	72	72	1289	72	60	Yes
6:00 PM	7:00 PM	382	587	43	59	969	59	60	No
7:00 PM	8:00 PM	238	285	15	26	523	26	115	No
8:00 PM	9:00 PM	216	248	16	30	464	30	135	No
9:00 PM	10:00 PM	158	143	11	27	301	27	205	No
10:00 PM	11:00 PM	109	121	10	15	230	15	243	No
11:00 PM	12:00 AM	64	81	1	17	145	17	295	No

5

Number of lanes for moving traffic on each approach (Major Street) 1  
Number of lanes for moving traffic on each approach (Minor Street) 1  
Warrant Factor 70%  
Row Index for VLOOKUP 5

Lookup Table							
Index	Major Street	Minor Street	Break Point	x <sup>2</sup>	x	c	alt
1	1	1	1110	0.00027	0.73003	557.978	80
2	2 or more	1	1310	0.00023	0.73144	643.445	80
3	2 or more	2 or more	1280	0.00031	0.97877	858.973	115
4	1	2 or more	1110	0.00023	0.73144	643.445	115
5	1	1	790	0.00044	0.76930	396.803	60
6	2 or more	1	930	0.00037	0.76954	457.134	60
7	2 or more	2 or more	860	0.00049	1.03083	614.734	80
8	1	2 or more	790	0.00037	0.76954	457.134	80

70% Factor 100% Factor

Is Warrant #2 met based on the applicable warrant factor?

Yes



# COLLISION DIAGRAM

INTERSECTION

Krome Avenue & Epmore Drive

PERIOD

1995-1999

FROM

1 Jan 1995

TO

31 Dec 1999

CITY

Miami-Dade

PREPARED BY

Thuha Nguyen

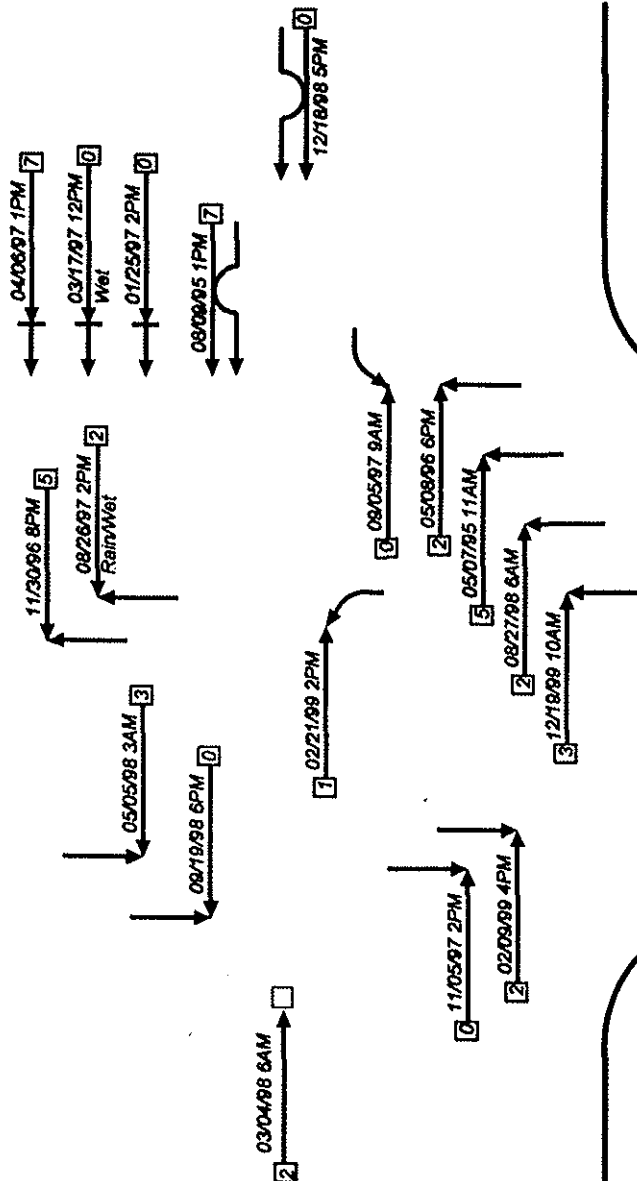
DATE

01/28/03



EPMORE DRIVE

KROME AVENUE



\*1 crash has inadequate information for inclusion in crash diagram

NUMBER OF CRASHES	SYMBOLS	TYPE OF COLLISIONS	SHOW FOR EACH CRASH
6 PROPERTY DAMAGE ONLY	<ul style="list-style-type: none"> <li>MOVING VEHICLE</li> <li>BACKING VEHICLE</li> <li>NON-INVOLVED VEHICLE</li> <li>PEDESTRIAN</li> <li>PARKED VEHICLE</li> <li>FIXED OBJECT</li> <li>BICYCLE/MOTORCYCLE</li> <li>NUMBER OF INJURIES</li> </ul>	<ul style="list-style-type: none"> <li>REAR END</li> <li>HEAD ON</li> <li>SIDE SWIPE</li> <li>OVERTURNED</li> <li>LEFT TURN</li> <li>RIGHT ANGLE</li> </ul>	1 TIME DAY DATE 2 WEATHER AND ROAD SURFACE - IF UNUSUAL CONDITIONS EXISTED
13 INJURY CRASHES			
0 FATAL CRASHES			
19* TOTAL CRASHES			
			FIGURE: XX

Krome Avenue &  
Grossman Farm Road (SW 192<sup>nd</sup> Street)



**KITTELSON & ASSOCIATES, INC.**  
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**Project #:** 4533/7  
**Project Name:** Krome Avenue Phase IV  
**Analyst:** Marais Lombard  
**Date:** 2/11/2003  
**File:** H:\PROJFILE\4533\Task 7 - Krome Phase 4\Task1-Signal Warrant Analysis\Signal Warrants\Howard\_15th\Warrant Summary  
**Intersection:** Grossman Farm Road (SW 192nd St)  
**Scenario:** Existing - January 15, 2003

### Warrant Summary

Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	No	-
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	Yes	No
#8	Roadway Network	No	-

### Raw Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 AM	1:00 AM	38	68	6	2
1:00 AM	2:00 AM	17	45	5	0
2:00 AM	3:00 AM	27	45	4	0
3:00 AM	4:00 AM	33	30	4	0
4:00 AM	5:00 AM	71	51	9	3
5:00 AM	6:00 AM	237	103	32	4
6:00 AM	7:00 AM	690	368	81	7
7:00 AM	8:00 AM	665	775	125	14
8:00 AM	9:00 AM	656	698	102	19
9:00 AM	10:00 AM	536	586	97	12
10:00 AM	11:00 AM	573	543	87	14
11:00 AM	12:00 PM	570	640	109	19
12:00 PM	1:00 PM	596	623	114	12
1:00 PM	2:00 PM	511	643	101	7
2:00 PM	3:00 PM	607	560	81	11
3:00 PM	4:00 PM	621	747	121	13
4:00 PM	5:00 PM	665	815	83	17
5:00 PM	6:00 PM	750	859	116	17
6:00 PM	7:00 PM	537	610	106	7
7:00 PM	8:00 PM	305	392	57	7
8:00 PM	9:00 PM	246	303	45	6
9:00 PM	10:00 PM	203	257	32	14
10:00 PM	11:00 PM	135	214	22	2
11:00 PM	12:00 AM	71	162	13	5

### Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Daily

### Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 AM	1:00 AM	38	68	6	2
1:00 AM	2:00 AM	17	45	5	0
2:00 AM	3:00 AM	27	45	4	0
3:00 AM	4:00 AM	33	30	4	0
4:00 AM	5:00 AM	71	51	9	3
5:00 AM	6:00 AM	237	103	32	4
6:00 AM	7:00 AM	690	368	81	7
7:00 AM	8:00 AM	665	775	125	14
8:00 AM	9:00 AM	656	698	102	19
9:00 AM	10:00 AM	536	586	97	12
10:00 AM	11:00 AM	573	543	87	14
11:00 AM	12:00 PM	570	640	109	19
12:00 PM	1:00 PM	596	623	114	12
1:00 PM	2:00 PM	511	643	101	7
2:00 PM	3:00 PM	607	560	81	11
3:00 PM	4:00 PM	621	747	121	13
4:00 PM	5:00 PM	665	815	83	17
5:00 PM	6:00 PM	750	859	116	17
6:00 PM	7:00 PM	537	610	106	7
7:00 PM	8:00 PM	305	392	57	7
8:00 PM	9:00 PM	246	303	45	6
9:00 PM	10:00 PM	203	257	32	14
10:00 PM	11:00 PM	135	214	22	2
11:00 PM	12:00 AM	71	162	13	5

# Warrant #2- Four Hour Volume

Traffic Volumes						Calculations			
Hour		Major Street		Minor Street		Combined	Higher Minor	Threshold	Is Threshold
Begin	End	NB	SB	EB	WB	Major Street	Street		Met?
12:00 AM	1:00 AM	38	68	6	2	106	6	320	No
1:00 AM	2:00 AM	17	45	5	0	62	5	351	No
2:00 AM	3:00 AM	27	45	4	0	72	4	344	No
3:00 AM	4:00 AM	33	30	4	0	63	4	350	No
4:00 AM	5:00 AM	71	51	9	3	122	9	309	No
5:00 AM	6:00 AM	237	103	32	4	340	32	186	No
6:00 AM	7:00 AM	690	368	81	7	1058	81	60	Yes
7:00 AM	8:00 AM	665	775	125	14	1440	125	60	Yes
8:00 AM	9:00 AM	656	698	102	19	1354	102	60	Yes
9:00 AM	10:00 AM	536	586	97	12	1122	97	60	Yes
10:00 AM	11:00 AM	573	543	87	14	1116	87	60	Yes
11:00 AM	12:00 PM	570	640	109	19	1210	109	60	Yes
12:00 PM	1:00 PM	596	623	114	12	1219	114	60	Yes
1:00 PM	2:00 PM	511	643	101	7	1154	101	60	Yes
2:00 PM	3:00 PM	607	560	81	11	1167	81	60	Yes
3:00 PM	4:00 PM	621	747	121	13	1368	121	60	Yes
4:00 PM	5:00 PM	665	815	83	17	1480	83	60	Yes
5:00 PM	6:00 PM	750	859	116	17	1609	116	60	Yes
6:00 PM	7:00 PM	537	610	106	7	1147	106	60	Yes
7:00 PM	8:00 PM	305	392	57	7	697	57	74	No
8:00 PM	9:00 PM	246	303	45	6	549	45	107	No
9:00 PM	10:00 PM	203	257	32	14	460	32	136	No
10:00 PM	11:00 PM	135	214	22	2	349	22	182	No
11:00 PM	12:00 AM	71	162	13	5	233	13	241	No

13

Number of lanes for moving traffic on each approach (Major Street)	1
Number of lanes for moving traffic on each approach (Minor Street)	1
Warrant Factor	70%
Row Index for VLOOKUP	5

Lookup Table							
Index	Major Street	Minor Street	Break Point	x <sup>2</sup>	x	c	alt
1	1	1	1110	0.00027	0.73003	557.978	80
2	2 or more	1	1310	0.00023	0.73144	643.445	80
3	2 or more	2 or more	1280	0.00031	0.97877	858.973	115
4	1	2 or more	1110	0.00023	0.73144	643.445	115
5	1	1	790	0.00044	0.76930	396.803	60
6	2 or more	1	930	0.00037	0.76954	457.134	60
7	2 or more	2 or more	860	0.00049	1.03083	614.734	80
8	1	2 or more	790	0.00037	0.76954	457.134	80

70% Factor 100% Factor

Is Warrant #2 met based on the applicable warrant factor?

Yes

$$0 \rightarrow \mathcal{O}_X \rightarrow \mathcal{O}_X \oplus \mathcal{O}_X \rightarrow \mathcal{O}_X \rightarrow 0$$

Traffic Volumes					
Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 AM	1:00 AM	38	68	6	2
1:00 AM	2:00 AM	17	45	5	0
2:00 AM	3:00 AM	27	45	4	0
3:00 AM	4:00 AM	33	30	4	0
4:00 AM	5:00 AM	71	51	9	3
5:00 AM	6:00 AM	237	103	32	4
6:00 AM	7:00 AM	246	130	47	7
7:00 AM	8:00 AM	305	392	57	7
8:00 AM	9:00 PM	246	303	45	6
9:00 PM	10:00 PM	203	257	32	14
10:00 PM	11:00 PM	135	214	22	2
11:00 PM	12:00 AM	71	162	13	5

Combined Major Street	Higher Minor Street	Major Plus Minor	Hourly Rank	Calculations			Condition B		
				Condition A					
				100%	80%	70%	100%	80%	70%
106	6	112	21	N	N	N	N	N	N
62	5	67	23	N	N	N	N	N	N
72	4	76	22	N	N	N	N	N	N
63	4	67	23	N	N	N	N	N	N
122	9	131	20	N	N	N	N	N	N
340	32	372	17	N	N	N	N	N	N
1058	81	1139	13	N	N	N	Yes	Yes	Yes
1440	125	1565	2	N	Yes	Yes	Yes	Yes	Yes
1354	102	1456	5	N	N	N	Yes	Yes	Yes
1122	97	1219	11	N	N	N	Yes	Yes	Yes
1116	87	1203	12	N	N	N	Yes	Yes	Yes
1210	109	1319	7	N	N	Yes	Yes	Yes	Yes
1219	114	1333	6	N	N	Yes	Yes	Yes	Yes
1154	101	1255	8	N	N	N	Yes	Yes	Yes
1167	81	1248	10	N	N	N	Yes	Yes	Yes
1368	121	1489	4	N	Yes	Yes	Yes	Yes	Yes
1480	83	1563	3	N	N	N	Yes	Yes	Yes
1609	116	1725	1	N	N	Yes	Yes	Yes	Yes
1147	106	1253	9	N	N	Yes	Yes	Yes	Yes
697	57	754	14	N	N	N	N	N	Yes
549	45	594	15	N	N	N	N	N	N
460	32	492	16	N	N	N	N	N	N
349	22	371	18	N	N	N	N	N	N
233	13	246	19	N	N	N	N	N	N
				0	2	6	13	13	14

Number of lanes for moving traffic on each approach (Major Street)	1
Number of lanes for moving traffic on each approach (Minor Street)	1
Warrant Factor	70%
Row Index for VLOOKUP	1

Lookup Table								
Condition A - Minimum Vehicular Volume								
Lanes			Combined Major Street			Higher Minor Street		
Index	Major Street	Minor Street	100%	80%	70%	100%	80%	70%
1	1	1	500	400	350	150	120	105
2	2 or more	1	600	480	420	150	120	105
3	2 or more	2 or more	600	480	420	200	160	140
4	1	2 or more	500	400	350	200	160	140
Condition B - Interruption of Continuous Traffic								
Lanes			Combined Major Street			Higher Minor Street		
Index	Major Street	Minor Street	100%	80%	70%	100%	80%	70%
1	1	1	750	600	525	75	60	53
2	2 or more	1	900	720	630	75	60	53
3	2 or more	2 or more	900	720	630	100	80	70
4	1	2 or more	750	600	525	100	80	70

Vehicles per hour on major street (100% Volume)	500	Vehicles per hour on major street (100% Volume)	750
Vehicles per hour on major street (80% Volume)	400	Vehicles per hour on major street (80% Volume)	600
Vehicles per hour on major street (70% Volume)	350	Vehicles per hour on major street (70% Volume)	525
Vehicles per hour on higher-volume minor-street approach (100% Volume)	150	Vehicles per hour on higher-volume minor-street approach (100% Volume)	75
Vehicles per hour on higher-volume minor-street approach (80% Volume)	120	Vehicles per hour on higher-volume minor-street approach (80% Volume)	60
Vehicles per hour on higher-volume minor-street approach (70% Volume)	105	Vehicles per hour on higher-volume minor-street approach (70% Volume)	53

Warrant Summary							
Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Threshold	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	8	No	Yes
	B	750	75	13	8	Yes	
80%	A	400	120	2	8	No	No
	B	600	60	13	8	Yes	
70%	A	350	105	6	8	No	Yes
	B	525	53	14	8	Yes	

Is Warrant #1 met based on the applicable warrant factor?

NO

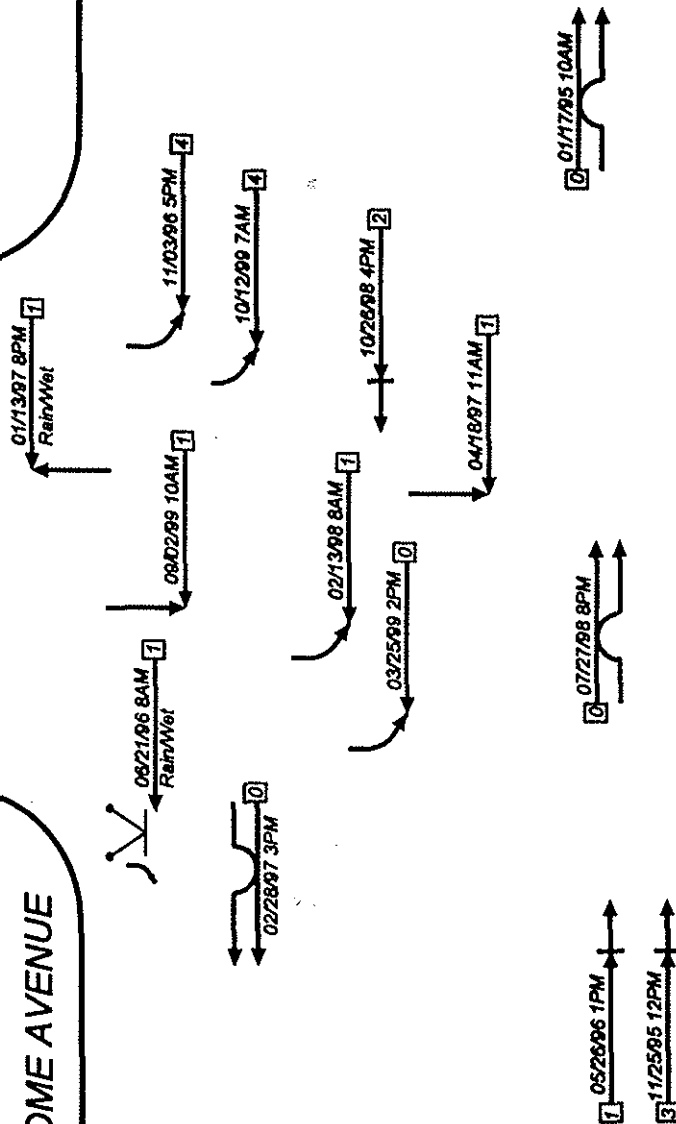
# COLLISION DIAGRAM

INTERSECTION Krome Avenue & Grossman Farm Drive  
 PERIOD 1995-1999 FROM 1 Jan 1995 TO 31 Dec 1999  
 CITY Miami-Dade PREPARED BY Thuha Nguyen DATE 01/28/03



GROSSMAN FARM DRIVE

KROME AVENUE



\* 2 crashes have inadequate information for inclusion in crash diagram

NUMBER OF CRASHES	SYMBOLS	TYPE OF COLLISIONS	SHOW FOR EACH CRASH
5 PROPERTY DAMAGE ONLY	← MOVING VEHICLE	←+ REAR END	1 TIME DAY DATE
11 INJURY CRASHES	←+ BACKING VEHICLE	←+ HEAD ON	2 WEATHER AND ROAD SURFACE - IF UNUSUAL CONDITIONS EXISTED
0 FATAL CRASHES	←+ NON-INVOLVED VEHICLE	←+ SIDE SWIPE	
16* TOTAL CRASHES	⋈ PEDESTRIAN	←+ OVERTURNED	
	▬ PARKED VEHICLE	←+ LEFT TURN	
	□ FIXED OBJECT	←+ RIGHT ANGLE	
	⋈ BICYCLE/MOTORCYCLE		
	2 NUMBER OF INJURIES		
			FIGURE: X.X

Krome Avenue &  
Howard Road (SW 136<sup>th</sup> Street)

**KITTELSON & ASSOCIATES, INC.**

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**Project #:** 4533/7  
**Project Name:** Krome Avenue Phase IV  
**Analyst:** Marois Lombard  
**Date:** 2/11/2003  
**File:** H:\PROFILE\4533\Task 7 - Krome Phase 4\Task1-Signal Warrant Analysis\Sigal Warrants\Howard\_15th\Warrant Summary  
**Intersection:** Howard Road (SW 136th St)  
**Scenario:** Existing - January 15, 2003

**Warrant Summary**

Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	#REF!
#3	Peak Hour	No	-
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	Yes	No
#8	Roadway Network	No	-

**Raw Traffic Volumes**

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 AM	1:00 AM	45	63	10	0
1:00 AM	2:00 AM	13	49	0	0
2:00 AM	3:00 AM	28	43	0	0
3:00 AM	4:00 AM	34	30	1	0
4:00 AM	5:00 AM	88	55	7	0
5:00 AM	6:00 AM	236	108	30	0
6:00 AM	7:00 AM	621	334	110	0
7:00 AM	8:00 AM	790	657	110	0
8:00 AM	9:00 AM	643	515	94	0
9:00 AM	10:00 AM	519	502	89	0
10:00 AM	11:00 AM	487	451	81	0
11:00 AM	12:00 PM	527	518	79	0
12:00 PM	1:00 PM	471	513	93	0
1:00 PM	2:00 PM	500	550	93	0
2:00 PM	3:00 PM	514	513	79	0
3:00 PM	4:00 PM	550	695	101	0
4:00 PM	5:00 PM	601	762	102	0
5:00 PM	6:00 PM	677	720	121	0
6:00 PM	7:00 PM	459	565	124	0
7:00 PM	8:00 PM	298	349	75	0
8:00 PM	9:00 PM	194	212	66	0
9:00 PM	10:00 PM	168	185	92	0
10:00 PM	11:00 PM	109	219	32	0
11:00 PM	12:00 AM	78	134	14	0

**Input Parameters**

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Daily

**Analysis Traffic Volumes**

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 AM	1:00 AM	45	63	10	0
1:00 AM	2:00 AM	13	49	0	0
2:00 AM	3:00 AM	28	43	0	0
3:00 AM	4:00 AM	34	30	1	0
4:00 AM	5:00 AM	88	55	7	0
5:00 AM	6:00 AM	236	108	30	0
6:00 AM	7:00 AM	621	334	110	0
7:00 AM	8:00 AM	790	657	110	0
8:00 AM	9:00 AM	643	515	94	0
9:00 AM	10:00 AM	519	502	89	0
10:00 AM	11:00 AM	487	451	81	0
11:00 AM	12:00 PM	527	518	79	0
12:00 PM	1:00 PM	471	513	93	0
1:00 PM	2:00 PM	500	550	93	0
2:00 PM	3:00 PM	514	513	79	0
3:00 PM	4:00 PM	550	695	101	0
4:00 PM	5:00 PM	601	762	102	0
5:00 PM	6:00 PM	677	720	121	0
6:00 PM	7:00 PM	459	565	124	0
7:00 PM	8:00 PM	298	349	75	0
8:00 PM	9:00 PM	194	212	66	0
9:00 PM	10:00 PM	168	185	92	0
10:00 PM	11:00 PM	109	219	32	0
11:00 PM	12:00 AM	78	134	14	0



# Warrant # 1- Eight Hour Volume

		Traffic Volumes			
		Major Street		Minor Street	
Hour		NB	SB	EB	WB
Begin	End				
12:00 AM	1:00 AM	45	63	10	0
1:00 AM	2:00 AM	13	49	0	0
2:00 AM	3:00 AM	28	43	0	0
3:00 AM	4:00 AM	34	30	1	0
4:00 AM	5:00 AM	88	55	7	0
5:00 AM	6:00 AM	236	108	30	0
6:00 AM	7:00 AM	298	349	75	0
7:00 AM	8:00 AM	194	212	66	0
8:00 AM	9:00 AM	168	185	92	0
9:00 AM	10:00 AM	109	219	32	0
10:00 AM	11:00 AM	78	134	14	0
11:00 AM	12:00 PM				
12:00 PM	1:00 PM				
1:00 PM	2:00 PM				
2:00 PM	3:00 PM				
3:00 PM	4:00 PM				
4:00 PM	5:00 PM				
5:00 PM	6:00 PM				
6:00 PM	7:00 PM				
7:00 PM	8:00 PM				
8:00 PM	9:00 PM				
9:00 PM	10:00 PM				
10:00 PM	11:00 PM				
11:00 PM	12:00 AM				

70% Warrant Met

				Calculations					
				Condition A			Condition B		
Combined Major Street	Higher Minor Street	Major Plus Minor	Hourly Rank	100%	80%	70%	100%	80%	70%
108	10	118	21	N	N	N	N	N	N
62	0	62	24	N	N	N	N	N	N
71	0	71	22	N	N	N	N	N	N
64	1	65	23	N	N	N	N	N	N
143	7	150	20	N	N	N	N	N	N
344	30	374	17	N	N	N	N	N	N
955	110	1065	12	N	N	Yes	Yes	Yes	Yes
1447	110	1557	1	N	N	Yes	Yes	Yes	Yes
1158	94	1252	5	N	N	N	Yes	Yes	Yes
1021	89	1110	9	N	N	N	Yes	Yes	Yes
938	81	1019	13	N	N	N	Yes	Yes	Yes
1045	79	1124	8	N	N	N	Yes	Yes	Yes
984	93	1077	11	N	N	N	Yes	Yes	Yes
1050	93	1143	7	N	N	N	Yes	Yes	Yes
1027	79	1106	10	N	N	N	Yes	Yes	Yes
1245	101	1346	4	N	N	N	Yes	Yes	Yes
1363	102	1465	3	N	N	N	Yes	Yes	Yes
1397	121	1518	2	N	Yes	Yes	Yes	Yes	Yes
1024	124	1148	6	N	Yes	Yes	Yes	Yes	Yes
647	75	722	14	N	N	N	N	Yes	Yes
406	66	472	15	N	N	N	N	N	N
353	92	445	16	N	N	N	N	N	N
328	32	360	18	N	N	N	N	N	N
212	14	226	19	N	N	N	N	N	N
				0	2	4	13	14	14

Number of lanes for moving traffic on each approach (Major Street) 1  
Number of lanes for moving traffic on each approach (Minor Street) 1  
Warrant Factor 70%  
Row Index for VLOOKUP 1

## Lookup Table

Condition A - Minimum Vehicular Volume									
Lanes		Combined Major Street			Higher Minor Street				
Index	Major Street	Minor Street	100%	80%	70%	100%	80%	70%	
1	1	1	500	400	350	150	120	105	
2	2 or more	1	600	480	420	150	120	105	
3	2 or more	2 or more	600	480	420	200	160	140	
4	1	2 or more	500	400	350	200	160	140	
Condition B - Interruption of Continuous Traffic									
Lanes		Combined Major Street			Higher Minor Street				
Index	Major Street	Minor Street	100%	80%	70%	100%	80%	70%	
1	1	1	750	600	525	75	60	53	
2	2 or more	1	900	720	630	75	60	53	
3	2 or more	2 or more	900	720	630	100	80	70	
4	1	2 or more	750	600	525	100	80	70	

Vehicles per hour on major street (100% Volume)	500	Vehicles per hour on major street (100% Volume)	750
Vehicles per hour on major street (80% Volume)	400	Vehicles per hour on major street (80% Volume)	600
Vehicles per hour on major street (70% Volume)	350	Vehicles per hour on major street (70% Volume)	525
Vehicles per hour on higher-volume minor-street approach (100% Volume)	150	Vehicles per hour on higher-volume minor-street approach (100% Volume)	75
Vehicles per hour on higher-volume minor-street approach (80% Volume)	120	Vehicles per hour on higher-volume minor-street approach (80% Volume)	60
Vehicles per hour on higher-volume minor-street approach (70% Volume)	105	Vehicles per hour on higher-volume minor-street approach (70% Volume)	53

## Warrant Summary

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Threshold	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	8	No	No
	B	750	75	13	8	Yes	Yes
80%	A	400	120	2	8	No	No
	B	600	60	14	8	Yes	No
70%	A	350	105	4	8	No	No
	B	525	53	14	8	Yes	Yes

Is Warrant #1 met based on the applicable warrant factor?

NO

# Warrant #2- Four Hour Volume

Traffic Volumes						Calculations			
Hour		Major Street		Minor Street		Combined	Higher Minor	Threshold	Is Threshold
Begin	End	NB	SB	EB	WB	Major Street	Street		Met?
12:00 AM	1:00 AM	45	63	10	0	108	10	319	No
1:00 AM	2:00 AM	13	49	0	0	62	0	351	
2:00 AM	3:00 AM	28	43	0	0	71	0	344	
3:00 AM	4:00 AM	34	30	1	0	64	1	349	No
4:00 AM	5:00 AM	88	55	7	0	143	7	296	No
5:00 AM	6:00 AM	236	108	30	0	344	30	184	No
6:00 AM	7:00 AM	621	334	110	0	955	110	60	Yes
7:00 AM	8:00 AM	790	657	110	0	1447	110	60	Yes
8:00 AM	9:00 AM	643	515	94	0	1158	94	60	Yes
9:00 AM	10:00 AM	519	502	89	0	1021	89	60	Yes
10:00 AM	11:00 AM	487	451	81	0	938	81	60	Yes
11:00 AM	12:00 PM	527	518	79	0	1045	79	60	Yes
12:00 PM	1:00 PM	471	513	93	0	984	93	60	Yes
1:00 PM	2:00 PM	500	550	93	0	1050	93	60	Yes
2:00 PM	3:00 PM	514	513	79	0	1027	79	60	Yes
3:00 PM	4:00 PM	550	695	101	0	1245	101	60	Yes
4:00 PM	5:00 PM	601	762	102	0	1363	102	60	Yes
5:00 PM	6:00 PM	677	720	121	0	1397	121	60	Yes
6:00 PM	7:00 PM	459	565	124	0	1024	124	60	Yes
7:00 PM	8:00 PM	298	349	75	0	647	75	83	No
8:00 PM	9:00 PM	194	212	66	0	406	66	157	No
9:00 PM	10:00 PM	168	185	92	0	353	92	180	No
10:00 PM	11:00 PM	109	219	32	0	328	32	192	No
11:00 PM	12:00 AM	78	134	14	0	212	14	253	No
						13			

Number of lanes for moving traffic on each approach (Major Street) 1  
Number of lanes for moving traffic on each approach (Minor Street) 1  
Warrant Factor 70%  
Row Index for VLOOKUP 5

Lookup Table							
Index	Major Street	Minor Street	Break Point	x <sup>2</sup>	x	c	alt
1	1	1	1110	0.00027	0.73003	557.978	80
2	2 or more	1	1310	0.00023	0.73144	643.445	80
3	2 or more	2 or more	1280	0.00031	0.97877	858.973	115
4	1	2 or more	1110	0.00023	0.73144	643.445	115
5	1	1	790	0.00044	0.76930	396.803	60
6	2 or more	1	930	0.00037	0.76954	457.134	60
7	2 or more	2 or more	860	0.00049	1.03083	614.734	80
8	1	2 or more	790	0.00037	0.76954	457.134	80

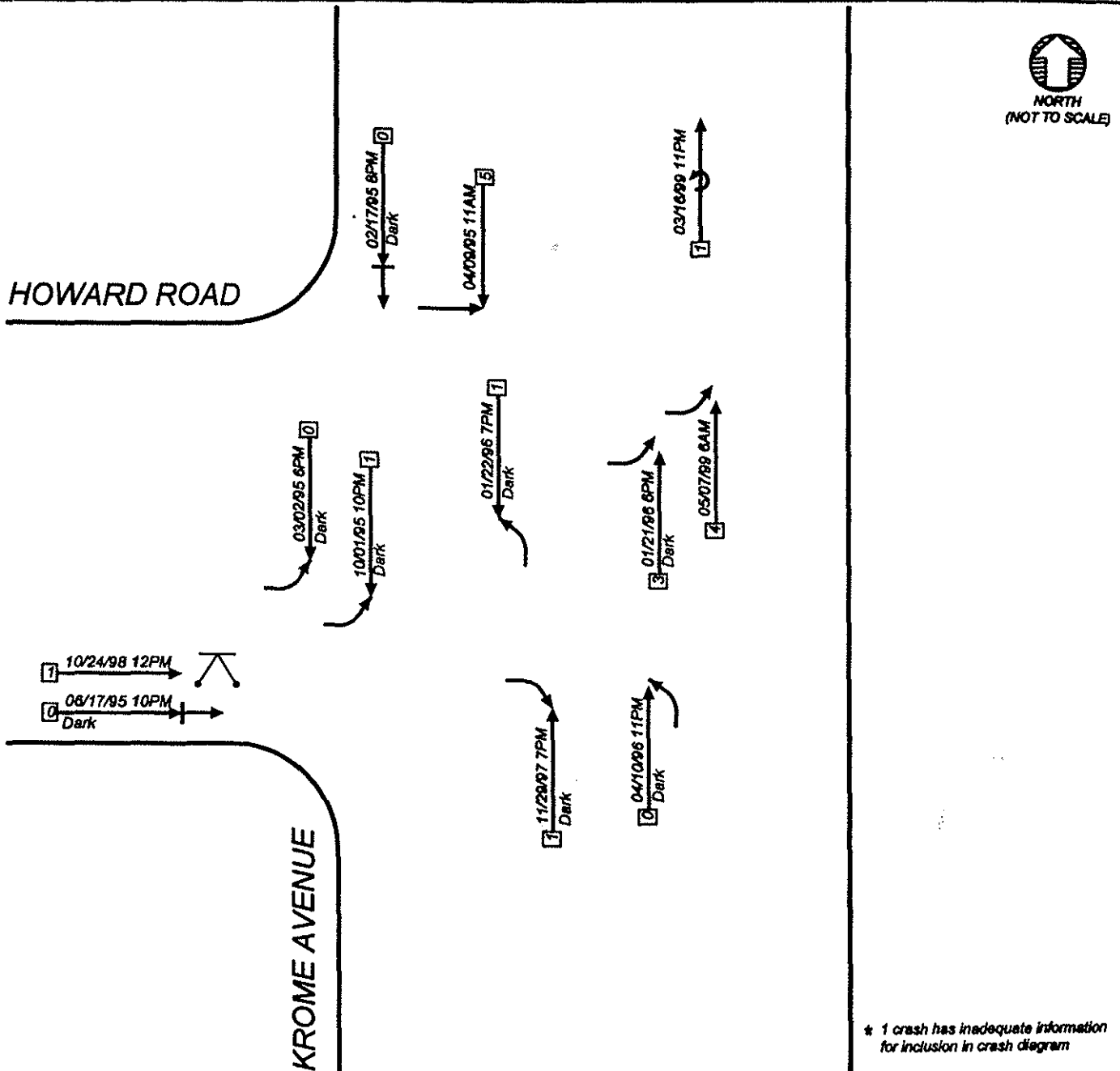
70% Factor 100% Factor

Is Warrant #2 met based on the applicable warrant factor?

Yes

# COLLISION DIAGRAM

INTERSECTION Krome Avenue & Howard Road  
 PERIOD 1995-1999 FROM 1 Jan 1995 TO 31 Dec 1999  
 CITY Miami-Dade PREPARED BY Thuha Nguyen DATE 01/28/03



\* 1 crash has inadequate information for inclusion in crash diagram

NUMBER OF CRASHES	SYMBOLS	TYPE OF COLLISIONS	SHOW FOR EACH CRASH
4 PROPERTY DAMAGE ONLY	MOVING VEHICLE	REAR END	1 TIME DAY DATE
9 INJURY CRASHES	BACKING VEHICLE	HEAD ON	2 WEATHER AND ROAD SURFACE - IF UNUSUAL CONDITIONS EXISTED
0 FATAL CRASHES	NON-INVOLVED VEHICLE	SIDE SWIPE	
13* TOTAL CRASHES	PEDESTRIAN	OVERTURNED	
	PARKED VEHICLE	LEFT TURN	
	FIXED OBJECT	RIGHT ANGLE	
	BICYCLE/MOTORCYCLE		
	NUMBER OF INJURIES		

FIGURE: X.X

01/30/2003 06:03:33 PM

01/30/2003 06:03:33 PM

Krome Avenue &  
Okeechobee Road (US 27)



**KITTELSON & ASSOCIATES, INC.**  
 110 E Broward Blvd, Suite 2410  
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 Tel: (954) 735 1245  
 Fax: (954) 735 9025

**Project #:** 4533/7  
**Project Name:** Krome Avenue Phase IV  
**Analyst:** Marais Lombard  
**Date:** 2/11/2003  
**File:** H:\PROJECT\4533\Task 7 - Krome Phase 4\Task1-Signal Warrant Analysis\Signal Warrants\Howard\_15th\Warrant Summary  
**Intersection:** Okeechobee Road (US 27)  
**Scenario:** Existing - January 15, 2003

### Warrant Summary

Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	No	-
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	Yes	No
#8	Roadway Network	No	-

### Raw Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
12:00 AM	1:00 AM	79	138	26	0
1:00 AM	2:00 AM	100	66	13	0
2:00 AM	3:00 AM	59	124	12	0
3:00 AM	4:00 AM	101	119	17	0
4:00 AM	5:00 AM	167	234	32	0
5:00 AM	6:00 AM	318	323	86	0
6:00 AM	7:00 AM	326	459	163	0
7:00 AM	8:00 AM	1400	445	268	0
8:00 AM	9:00 AM	1188	494	317	0
9:00 AM	10:00 AM	734	427	197	0
10:00 AM	11:00 AM	734	524	174	0
11:00 AM	12:00 PM	523	501	145	0
12:00 PM	1:00 PM	501	491	135	0
1:00 PM	2:00 PM	540	490	133	0
2:00 PM	3:00 PM	580	520	150	0
3:00 PM	4:00 PM	597	706	183	0
4:00 PM	5:00 PM	653	815	184	0
5:00 PM	6:00 PM	622	1219	202	0
6:00 PM	7:00 PM	453	934	171	0
7:00 PM	8:00 PM	309	512	86	0
8:00 PM	9:00 PM	219	289	65	0
9:00 PM	10:00 PM	1851	265	42	0
10:00 PM	11:00 PM	143	156	45	0
11:00 PM	12:00 AM	106	113	43	43

### Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	2
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Daily

### Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
12:00 AM	1:00 AM	79	138	26	0
1:00 AM	2:00 AM	100	66	13	0
2:00 AM	3:00 AM	59	124	12	0
3:00 AM	4:00 AM	101	119	17	0
4:00 AM	5:00 AM	167	234	32	0
5:00 AM	6:00 AM	318	323	86	0
6:00 AM	7:00 AM	326	459	163	0
7:00 AM	8:00 AM	1400	445	268	0
8:00 AM	9:00 AM	1188	494	317	0
9:00 AM	10:00 AM	734	427	197	0
10:00 AM	11:00 AM	734	524	174	0
11:00 AM	12:00 PM	523	501	145	0
12:00 PM	1:00 PM	501	491	135	0
1:00 PM	2:00 PM	540	490	133	0
2:00 PM	3:00 PM	580	520	150	0
3:00 PM	4:00 PM	597	706	183	0
4:00 PM	5:00 PM	653	815	184	0
5:00 PM	6:00 PM	622	1219	202	0
6:00 PM	7:00 PM	453	934	171	0
7:00 PM	8:00 PM	309	512	86	0
8:00 PM	9:00 PM	219	289	65	0
9:00 PM	10:00 PM	1851	265	42	0
10:00 PM	11:00 PM	143	156	45	0
11:00 PM	12:00 AM	106	113	43	43

**Warrant # 1- Eight Hour Volume**

### Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
12:00 AM	1:00 AM	79	138	26	0
1:00 AM	2:00 AM	100	66	13	0
2:00 AM	3:00 AM	59	124	12	0
3:00 AM	4:00 AM	101	119	17	0
4:00 AM	5:00 AM	167	234	32	0
5:00 AM	6:00 AM	318	323	86	0
6:00 AM	7:00 AM	326	459	163	0
7:00 PM	8:00 PM	209	512	86	0
8:00 PM	9:00 PM	219	289	65	0
9:00 PM	10:00 PM	1851	265	42	0
10:00 PM	11:00 PM	143	156	45	0
11:00 PM	12:00 AM	106	113	43	43

Number of lanes for moving traffic on each approach (Major Street)	2
Number of lanes for moving traffic on each approach (Minor Street)	2
Warrant Factor	70%
Row Index for VLOOKUP	3

### Lookup Table

Condition A - Minimum Vehicular Volume								
Lanes			Combined Major Street			Higher Minor Street		
Index	Major Street	Minor Street	100%	80%	70%	100%	80%	70%
1	1	1	500	400	350	150	120	105
2	2 or more	1	600	480	420	150	120	105
3	2 or more	2 or more	600	480	420	200	160	140
4	1	2 or more	500	400	350	200	160	140

Condition B - Interruption of Continuous Traffic								
Lanes			Combined Major Street			Higher Minor Street		
Index	Major Street	Minor Street	100%	80%	70%	100%	80%	70%
1	1	1	750	600	525	75	60	53
2	2 or more	1	900	720	630	75	60	53
3	2 or more	2 or more	900	720	630	100	80	70
4	1	2 or more	750	600	525	100	80	70

Vehicles per hour on major street (100% Volume)	600	Vehicles per hour on major street (100% Volume)	900
Vehicles per hour on major street (80% Volume)	480	Vehicles per hour on major street (80% Volume)	720
Vehicles per hour on major street (70% Volume)	420	Vehicles per hour on major street (70% Volume)	630
Vehicles per hour on higher-volume minor-street approach (100% Volume)	200	Vehicles per hour on higher-volume minor-street approach (100% Volume)	100
Vehicles per hour on higher-volume minor-street approach (80% Volume)	160	Vehicles per hour on higher-volume minor-street approach (80% Volume)	80
Vehicles per hour on higher-volume minor-street approach (70% Volume)	140	Vehicles per hour on higher-volume minor-street approach (70% Volume)	70

## Calculations

Combined Major Street	Higher Minor Street	Major Plus Minor	Hourly Rank	Condition A			Condition B		
				100%	80%	70%	100%	80%	70%
217	26	243	21	N	N	N	N	N	N
166	13	179	24	N	N	N	N	N	N
183	12	195	23	N	N	N	N	N	N
220	17	237	22	N	N	N	N	N	N
401	32	433	18	N	N	N	N	N	N
641	86	727	16	N	N	N	N	N	Yes
785	163	948	14	N	Yes	Yes	N	Yes	Yes
1845	268	2113	2	Yes	Yes	Yes	Yes	Yes	Yes
1682	317	1999	4	Yes	Yes	Yes	Yes	Yes	Yes
1161	197	1358	9	N	Yes	Yes	Yes	Yes	Yes
1258	174	1432	8	N	Yes	Yes	Yes	Yes	Yes
1024	145	1169	11	N	N	Yes	Yes	Yes	Yes
992	135	1127	13	N	N	N	Yes	Yes	Yes
1030	133	1163	12	N	N	N	Yes	Yes	Yes
1100	150	1250	10	N	N	Yes	Yes	Yes	Yes
1303	183	1486	7	N	Yes	Yes	Yes	Yes	Yes
1468	184	1652	5	N	Yes	Yes	Yes	Yes	Yes
1841	202	2043	3	Yes	Yes	Yes	Yes	Yes	Yes
1387	171	1558	6	N	Yes	Yes	Yes	Yes	Yes
821	86	907	15	N	N	N	N	Yes	Yes
508	65	573	17	N	N	N	N	N	N
2116	42	2158	1	N	N	N	N	N	N
299	45	344	19	N	N	N	N	N	N
219	43	262	20	N	N	N	N	N	N
				3	9	11	12	14	15

## Warrant Summary

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Threshold	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	200	3	8	No	
	B	900	100	12	8	Yes	Yes
80%	A	480	160	9	8	Yes	
	B	720	80	14	8	Yes	Yes
70%	A	420	140	11	8	Yes	
	B	630	70	15	8	Yes	Yes

Is Warrant #1 met based on the applicable warrant factor?

Yes

# Warrant #2- Four Hour Volume

## Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
12:00 AM	1:00 AM	79	138	26	0
1:00 AM	2:00 AM	100	66	13	0
2:00 AM	3:00 AM	59	124	12	0
3:00 AM	4:00 AM	101	119	17	0
4:00 AM	5:00 AM	167	234	32	0
5:00 AM	6:00 AM	318	323	86	0
6:00 AM	7:00 AM	326	459	163	0
7:00 AM	8:00 AM	1400	445	268	0
8:00 AM	9:00 AM	1188	494	317	0
9:00 AM	10:00 AM	734	427	197	0
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12:00 PM	1:00 PM	501	491	135	0
1:00 PM	2:00 PM	540	490	133	0
2:00 PM	3:00 PM	580	520	150	0
3:00 PM	4:00 PM	597	706	183	0
4:00 PM	5:00 PM	653	815	184	0
5:00 PM	6:00 PM	622	1219	202	0
6:00 PM	7:00 PM	453	934	171	0
7:00 PM	8:00 PM	309	512	86	0
8:00 PM	9:00 PM	219	289	65	0
9:00 PM	10:00 PM	1851	265	42	0
10:00 PM	11:00 PM	143	156	45	0
11:00 PM	12:00 AM	106	113	43	43

## Calculations

Combined Major Street	Higher Minor Street	Threshold	Is Threshold Met?
217	26	414	No
166	13	457	No
183	12	443	No
220	17	412	No
401	32	280	No
641	86	155	No
785	163	107	Yes
1845	268	80	Yes
1682	317	80	Yes
1161	197	80	Yes
1258	174	80	Yes
1024	145	80	Yes
992	135	80	Yes
1030	133	80	Yes
1100	150	80	Yes
1303	183	80	Yes
1468	184	80	Yes
1841	202	80	Yes
1387	171	80	Yes
821	86	99	No
508	65	218	No
2116	42	80	No
299	45	350	No
219	43	412	No

13

Number of lanes for moving traffic on each approach (Major Street) 2  
Number of lanes for moving traffic on each approach (Minor Street) 2  
Warrant Factor 70%  
Row Index for VLOOKUP 7

## Lookup Table

Index	Major Street	Minor Street	Break Point	x <sup>2</sup>	x	c	alt
1	1	1	1110	0.00027	0.73003	557.978	80
2	2 or more	1	1310	0.00023	0.73144	643.445	80
3	2 or more	2 or more	1280	0.00031	0.97877	858.973	115
4	1	2 or more	1110	0.00023	0.73144	643.445	115
5	1	1	790	0.00044	0.76930	396.803	60
6	2 or more	1	930	0.00037	0.76954	457.134	60
7	2 or more	2 or more	860	0.00049	1.03083	614.734	80
8	1	2 or more	790	0.00037	0.76954	457.134	80

70% Factor 100% Factor

Is Warrant #2 met based on the  
applicable warrant factor?

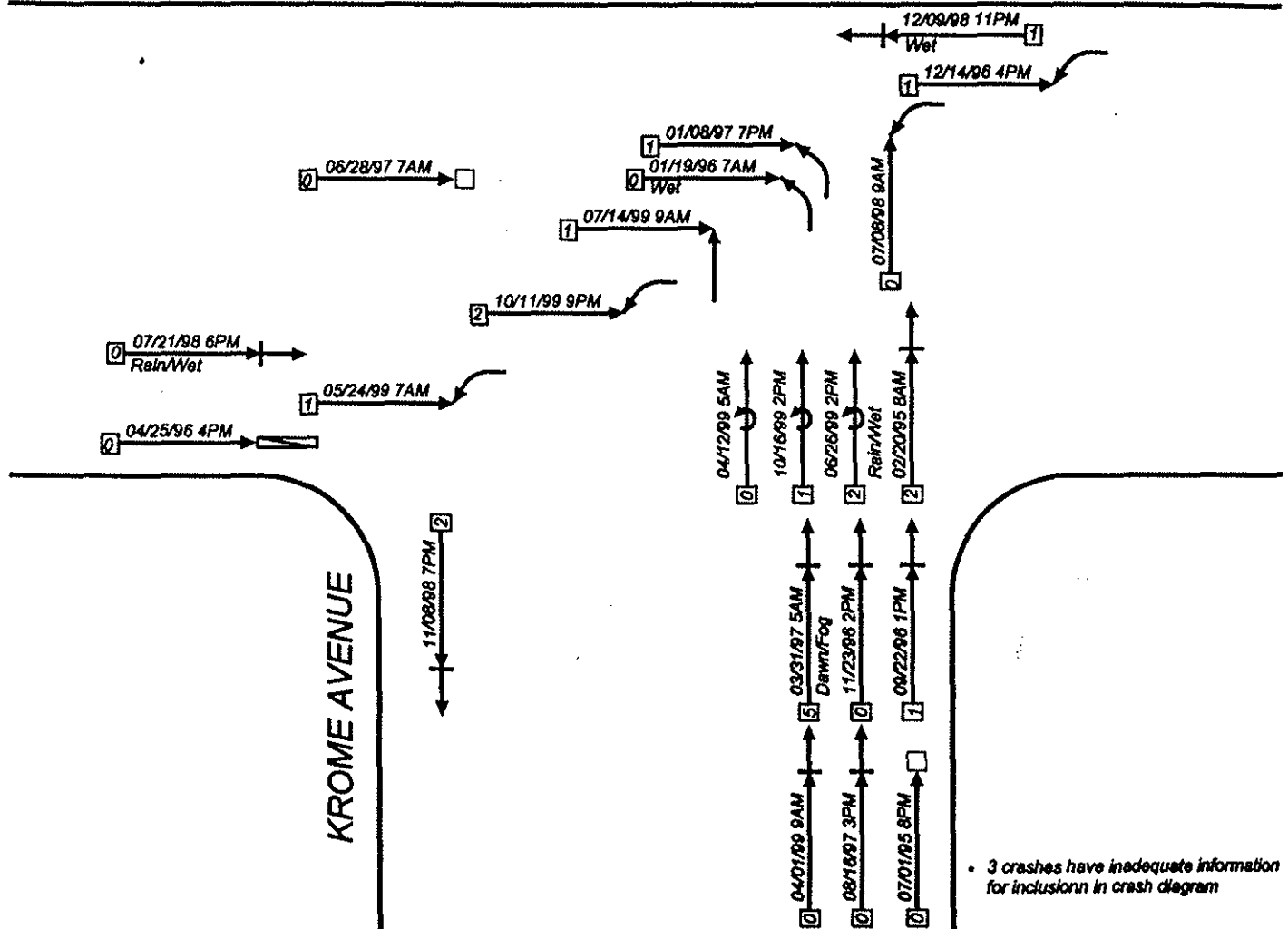
Yes

# COLLISION DIAGRAM

INTERSECTION Okeechobee Road & Krome Avenue  
 PERIOD 1995-1999 FROM 1 Jan 1995 TO 31 Dec 1999  
 CITY Miami-Dade PREPARED BY Thuha Nguyen DATE 01/28/03



## OKEECHOBEE ROAD



• 3 crashes have inadequate information for inclusion in crash diagram

NUMBER OF CRASHES	SYMBOLS	TYPE OF COLLISIONS	SHOW FOR EACH CRASH
<u>10</u> PROPERTY DAMAGE ONLY	← MOVING VEHICLE	← REAR END	1 TIME DAY DATE
<u>15</u> INJURY CRASHES	← BACKING VEHICLE	→ HEAD ON	2 WEATHER AND ROAD SURFACE - IF UNUSUAL CONDITIONS EXISTED
<u>0</u> FATAL CRASHES	← NON-INVOLVED VEHICLE	↔ SIDE SWIPE	
<u>25*</u> TOTAL CRASHES	X--- PEDESTRIAN	↺ OVERTURNED	
	▬ PARKED VEHICLE	↻ LEFT TURN	
	□ FIXED OBJECT	↗ RIGHT ANGLE	
	△ BICYCLE/MOTORCYCLE		
	2 NUMBER OF INJURIES		

FIGURE: X.X





## **APPENDIX B**

### *SR 997/Krome Avenue Future Conditions Analysis and Mitigation Measures*

Krome Avenue

Future Conditions Analysis and  
Mitigation Measures

Miami-Dade County, Florida

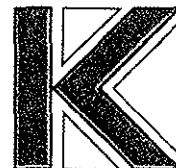
Prepared For:  
**Florida Department of Transportation, District Six**

Prepared By:  
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Lei Xu, Susan Wright, Tracie Fong

Project No. 4533.04

October 2002



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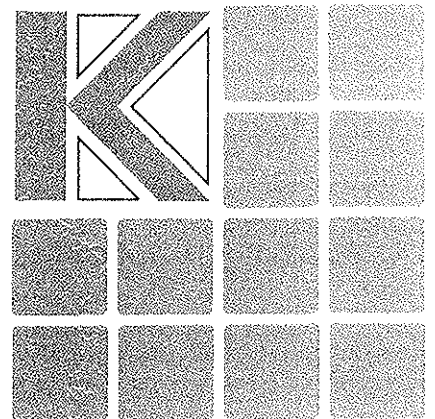
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## Executive Summary



## Executive Summary

Krome Avenue is a north-south highway in southwestern Miami-Dade County, Florida. It begins at US 1 in Florida City and extends north to its intersection with Okeechobee Road (US 27). The southern portion of Krome Avenue (from US 1 to Avocado Drive) is the subject of a Project Development and Environment (PD&E) Study by the Florida Department of Transportation. This report presents the results of a corridor study that covers approximately 33 miles of Krome Avenue that begins at Avocado Drive and ends at Okeechobee Road. The corridor study was conducted for two reasons: 1) to determine the extent to which continued traffic volume growth can be mitigated by intersection and roadway segment (i.e., midblock) improvements and 2) to develop a set of actions that could reduce the number and severity of crashes that have occurred along this two-lane highway.

### Traffic Volume Projections

From Avocado Drive to Eureka Drive (the southern 7.1 miles), Krome Avenue is suburban in character and has a traffic signal located at one-mile intervals on average. The northern 25.8 miles in this corridor is much more rural in character with long distances between traffic signals and lower levels of land-use development within the corridor. In 2001, weekday traffic volumes were between 14,000 and 15,000 vehicles south of Tamiami Trail and 9,000 vehicles north of Tamiami Trail.

Throughout the corridor, traffic volumes have grown at a rate of over 10% per year over the past six years. This rate of growth is not anticipated to continue for three reasons: 1) a linear rate of traffic growth is not physically possible to sustain for an indefinite period of time, 2) the historical ADT data from 2000 and 2001 already shows a trend that is starting to level off (rate of growth is decreasing), and 3) as roadways become more congested, the rate of traffic growth decreases. In addition, the future land-use plan for the corridor does not indicate a significant change over the existing land-uses to warrant a continuation of the observed historical growth rates. This is verified by the Long-Range Transportation Plan model traffic projections. By the year 2020, weekday traffic volumes are anticipated to be between 18,000 and 21,000 vehicles south of Tamiami Trail and slightly less than 12,000 vehicles north of Tamiami Trail.

### Roadway Improvements

In October 1999, an Action Plan was completed for the entire length of Krome Avenue – from US 1 to Okeechobee Road. This Action Plan was prepared in recognition that Krome Avenue is on the Florida Intrastate Highway System (FIHS) and that FIHS standards require that roadways on the FIHS system be designated as controlled-access facilities with a cross-section that provides for at least four lanes with a restrictive median. A series of safety and operational enhancements were recommended for the roadway. They included intersection lane additions and traffic signal installations, access management and shoulder enhancements, the provision of passing zones, the addition of pedestrian and bicycle facilities, the provision of pavement marking and signage improvements, and the addition of clear recovery zones.

The Action Plan also recommended a land-use overlay district for adoption to clarify parameters for development, to strengthen preservation measures, and to enhance the corridor's scenic qualities. This overlay district has not been established. In addition, none of the new traffic signals



recommended for installation along the corridor are planned for installation. However, seven intersections are programmed for turn lane additions, improved return radii, signing and pavement markings, and lighting improvements. Five of these seven intersections are included in this analysis.

### **Operational Analysis**

The intersection capacity analysis showed that today, six of the 14 intersections that were analyzed operate with an unacceptable level of delay (including all four of the unsignalized intersections that were analyzed). The Level of Service (LOS) standard for Krome Ave is LOS C north of SW 272<sup>nd</sup> Street and LOS D from SW 272<sup>nd</sup> Street to SW 296<sup>th</sup> Street. By 2010, seven of the 14 intersections will operate with an unacceptable level of delay. By 2020, nine of the 14 intersections will operate at an unacceptable level of delay. To achieve a Level of Service C or better at each of the 14 intersections in 2010 and 2020, a series of potential improvements were considered. These improvements included consideration for installing traffic signals at the four unsignalized intersections, the adjustment of traffic signal timing at several existing signalized intersections, and the addition of intersection approach turn lanes at three intersections (beyond those intersections turn lanes that are already committed for implementation).

If these improvements were to be implemented, all of the intersections along Krome Avenue - except for the intersection with Okeechobee Road - would operate at an acceptable level of service in the year 2020. However, the addition of traffic signals at the four unsignalized intersections could add delay (and a resulting increase in travel time) for north-south travel along Krome Avenue. Thus, a traffic signal warrant analysis should be conducted and an evaluation of potential negative impacts to installing new traffic signals should be considered before committing to the installation of these new traffic signals.

The highway level of service analysis along Krome Avenue showed that the two southernmost segments (from Avocado Drive to Eureka Drive) operate at an acceptable level of service while the three northernmost segments (from Eureka Drive to Okeechobee Road) operate at an unacceptable level of service. This difference in results is due to the different methodologies applied. There are two conclusions that were drawn from this analysis.

- The travel speeds for the three northernmost segments between traffic signals are close to the posted speed limits. However, delay at the signalized intersections significantly reduces the overall segment travel speeds. Thus, improved traffic signal timing and the addition of intersection approach turn lanes north of Eureka Drive (SW 184<sup>th</sup> Street) could improve the level of service performance of these three segments. However, the addition of traffic signals at Howard Street (SW 136<sup>th</sup> Street) and Okeechobee Road (US 27) could counteract this improvement in travel speed by adding delay to motorists traveling along Krome Avenue.
- Motorists spend a large percentage of time following other vehicles that prevent them from traveling at their desired speed. This is also true due to the limited passing opportunities that occur because many vehicles are traveling in the opposite direction. This impact on motorist travel is called percent time-spent-following. It is 66.7% under the existing conditions and is expected to be greater beginning in 2010. This is the primary reason for

the unacceptable segment levels of service in 2010 and 2020. Thus, either passing lanes or four-lane sections could be considered to reduce or eliminate this situation.

### **Safety Analysis**

There are a number of intersections along the corridor that have abnormally high crash experience indicated by a safety ratio of greater than 1.0 (Safety ratios were calculated by comparing the calculated actual crash rates and the documented Florida critical crash rates). These high crash locations are:

- Coconut Palm Drive/SW 248<sup>th</sup> Street: with a safety ratio of 1.019 in 1998
- Howard Road/SW 136<sup>th</sup> Street: with a safety ratio of 1.187 in 2000
- Kendall Drive/SW 88<sup>th</sup> Street: with a safety ratio of 1.866 in 1996
- Tamiami Trail/SW 8<sup>th</sup> Street: with safety ratios ranging from 1.493 in 1996 to 2.251 in 1999
- Okeechobee Road/US27: with safety ratios of 1.327 in 1996 and 1.393 in 1999

In addition, the safety ratios for each of the five segments were above 1.0 for at least three years of the five years analyzed. This indicates that crash experience on Krome Avenue exceeds the statewide average for this type of roadway. For all the crashes documented from 1995 to 1999, the top five crash types were angle, rear-end, head-on, left turn, and hit tree/shrub.

On a daily basis, the percentage of trucks traveling on Krome Avenue ranges from 26% to 32% of the total number of vehicles. Of all the vehicles involved in the crashes, 3.5% involved medium trucks (4 rear wheels), 3.2% involved heavy trucks (2 or more rear axles), and 5.3% involved truck tractor (cab-bobtail). In some cases, trucks may have had an influence on crashes, but were not directly involved in the crash.

The number of fatal crashes increased significantly beginning in the year 2000. For the first seven months of the year 2002, the data indicates a similar trend in an increasing number of fatal crashes experienced in the corridor. The segment from Eureka Drive to south of Kendall Drive had the highest fatal crash rate. In a length of less than 5 miles, there were 14 fatal crashes from 1996 to 2001.

There were 122 crashes that resulted in severe injuries (106 crashes) or fatalities (16 crashes) for the years 1995 to 1999. About 44% of all head-on crashes resulted in a severe injury or fatality, followed by hit pole (21%), angle (19%), and overturned vehicle (19%). All of these crashes and the additional 26 fatal crashes that occurred from January 2000 to July 2002 were plotted by milepost (Figure 5-3).

### **Potential Crash Counter Measures**

The historical crash data from 1995 to 2000 was sorted and classified into four crash types: intersection, roadway, roadside, or other crash type. Once classified, potential countermeasures were identified. A field review was then conducted at the candidate locations to check the applicability of the countermeasures and final recommendations were made. The detailed crash data obtained on fatal crashes from 1995 to June 2002 was reviewed to determine the contributing causes and possible countermeasures.

### **System Countermeasures**

Based on this analysis, a set of potential countermeasures to respond to for system issues was developed. These system wide countermeasures are divided into short-term and long-term actions in the list below:

#### *Short-Term*

- Raised pavement markers (RPMs) and improved pavement markings. This treatment will have the lowest cost and can likely be implemented in the shortest period of time.
- Provide a smooth transition to the clear zone. This treatment can be part of a roadway maintenance program.
- Improve the condition of existing shoulders/clear zone.

#### *Long-Term*

- Evaluate the feasibility of changing the existing two-lane undivided Krome Avenue corridor to include:
  - Four-lane median separated sections;
  - Passing lanes; and/or
  - A median Separated Two-Lane Section.
- Provision of the widest feasible clear zone and improved shoulder design.
- Upgrade Krome Avenue to controlled access facility standards.
- Provision of a roadway lighting system in the corridor.

### **Intersection Countermeasures**

A field review of 14 intersections was conducted to determine short-term and long-term countermeasures to enhance safety at those points along Krome Avenue. In summary, the intersection countermeasures recommended included the following:

#### *Short Term*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Cut back foliage boundary
- Install back plates on traffic signals to improve visibility
- Remove yield signs from intersection and have right turns operate through the signal (right-turn on red) at the Kendall Drive intersection
- Level transition from travel way to clear zone at the Howard Road intersection

#### *Long Term*

- Increase lighting at the intersections
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections

- Provide improved drainage at intersections
- Improve intersection warning and visibility through advanced warning signs and flashing lights where necessary
- Either relocate the utility pole or provide guardrail or other crash shield for the utility pole on the north side of the east approach at the Quail Roost Drive intersection.

## Conclusions

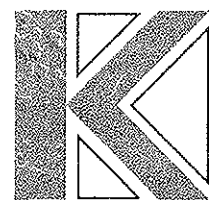
In summary, it is clear that traffic volume growth and increasing levels of congestion have contributed to driver frustration and attempts to make risky passing maneuvers on Krome Avenue. This has probably led to an increase in the number and severity of crashes in the corridor. Short of widening the highway to a four lane divided section, there are a number of congestion and safety countermeasures that could be considered in the short-term and long-term that will enhance mobility and safety in the corridor. (Some of these improvements are consistent with the previously approved Action Plan and some of them are in addition to the Action Plan improvements.) However, there are four factors that, in combination, argue for the consideration of widening Krome Avenue to a four lane divided section:

- The fact that Krome Avenue is on the Florida Intrastate Highway System and the requirement that it be designated as controlled-access facility with a cross-section that provides for at least four lanes with a restrictive median.
- The likelihood that the high percentage of trucks that use the entire length of the corridor contribute to an increase in crash severity when trucks are involved in crashes.
- The increasing levels of roadway and intersection congestion and the difficulty in mitigating these levels of congestion short of providing for additional north-south through movement capacity.
- The crash experience on Krome Avenue exceeds the statewide average for this type of roadway. The high number of crashes and the increase in crash severity (as demonstrated by an increase in the number of fatal crashes largely due to head-on and angle collisions) that likely would be mitigated by physically separating the directions of travel with a median.

For these reasons, it is recommended that a Project Development and Environment process be conducted to consider the range of solutions for improving the operational and safety characteristics of Krome Avenue. This PD&E study should consider the potential improvements that have been suggested by this corridor study (including the possibility of traffic signals) and additional improvements that may come from the public involvement effort that occurs during the PD&E study.

## **Section 1**

### Introduction



# 1. Introduction

The Krome Avenue Phase 2 Corridor study was authorized to provide for an analysis of existing and future conditions along this highway in southwest Miami-Dade County, Florida. The corridor location is shown in Figure 1-1. The portion of Krome Avenue that was analyzed begins at Avocado Drive (SW 296<sup>th</sup> Street) at the northern boundary of the City of Homestead and extends for almost 33 miles to its northern terminus at Okeechobee Road (US 27).

There are two purposes for this corridor study:

- To develop short-term (year 2010) and long-term (year 2020) traffic forecasts and to conduct highway and intersection capacity analyses for these future conditions. This analysis will allow for a determination of the extent to which levels of congestion will increase (despite the commitment that has been made to construct some intersection capacity improvements). An analysis of potential segment and intersection improvements will be suggested to mitigate these future levels of congestion.
- To conduct a safety analysis of prior crash (accident) history and to conduct field investigations to identify short-term and long-term actions that could mitigate the unacceptably high number and severity of crashes that have occurred.

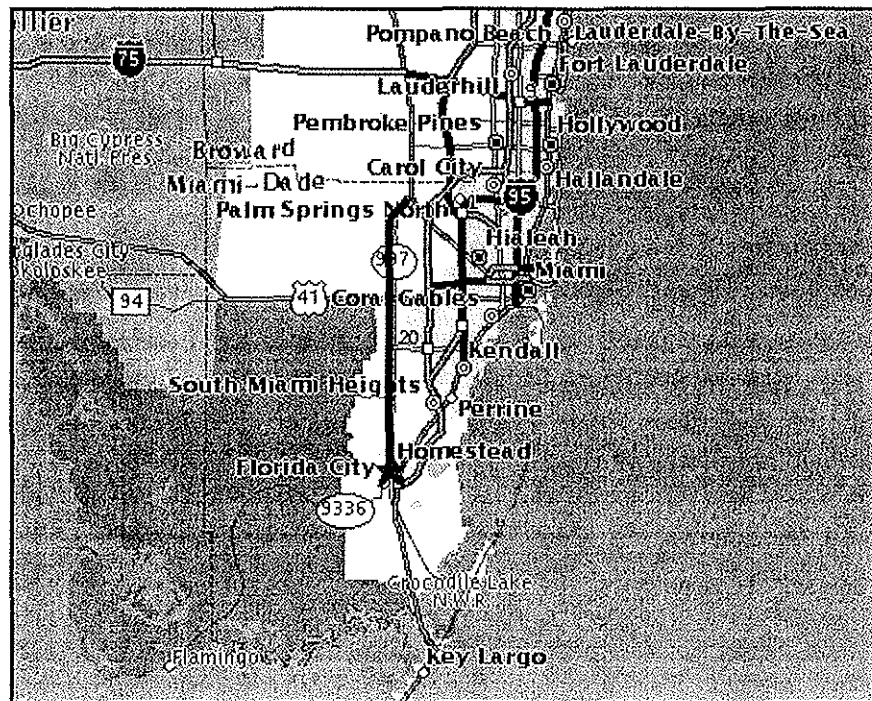
This study area is divided into five segments for analysis purposes:

- SW 296<sup>th</sup> Street (Avocado Drive) to SW 232<sup>nd</sup> Street (Silver Palm Drive) – 4.052 miles
- SW 232<sup>nd</sup> Street (Silver Palm Drive) to SW 184<sup>th</sup> Street (Eureka Drive) – 3.017 miles
- SW 184<sup>th</sup> Street (Eureka Drive) to SW 88<sup>th</sup> Street (Kendall Drive) – 6.535 miles
- SW 88<sup>th</sup> Street (Kendall Drive) to SW 8<sup>th</sup> Street (Tamiami Trail) – 4.999 miles
- SW 8<sup>th</sup> Street (Tamiami Trail) to US 27 (Okeechobee Road) – 14.275 miles

There are ten signalized intersections along this 33-mile section. Exclusive left turn lanes are provided at most of the signalized intersections in both northbound and southbound directions. The signal density (i.e., number of signals per mile) varies significantly on the five segments listed above. From south to north, the five segment signal densities are: 0.99 per mile, 0.99 per mile, 0.15 per mile, 0.20 per mile, and 0.04 per mile, respectively. Thus, the two southernmost segments (7.1 miles) are more suburban in character. The third and fourth segments (11.5 miles) have experienced traffic growth due to the westward expansion of development along the Kendall Drive and Tamiami Trail corridors. The northernmost segment (14.3 miles) is the most rural in character and accommodates primarily long-distance trips between Okeechobee Road (US 27) and the Homestead/Florida City area.

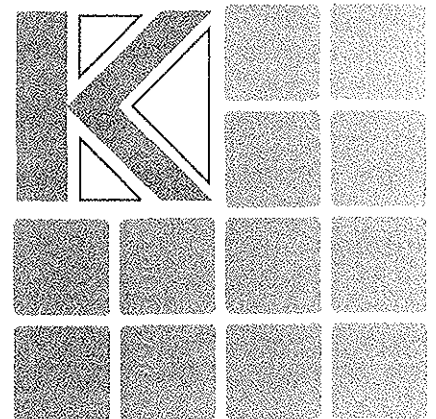
The remainder of this report is divided into five sections: traffic volume projections, roadway improvements, operational analysis, safety analysis, and potential crash counter measures.

Figure 1-1: Site Vicinity



## **Section 2**

### Traffic Volume Projections





## 2. Traffic Volume Projections

Traffic volume growth factors for the future conditions analysis were determined by an evaluation of historical Average Daily Traffic (ADT) volumes from 1996 to 2001 and the Long-Range Transportation Plan Model's base year (1999), year 2015, and year 2025 traffic volume projections.

### Historical Growth and Traffic Projections

Annual Daily Traffic (ADT) counts for the last six years (1996-2001) were obtained from the Florida Department of Transportation (FDOT). A regression analysis was performed on the six data points to find the best-fit linear and logarithmic traffic projections. Using the best-fit linear traffic projection, annual linear growth rates for each study area roadway segment were determined. The six years of ADT counts and the best-fit linear annual growth rates are shown in Table 2-1.

**Table 2-1: Historical ADTs and Best Fit Linear Annual Growth Rate**

Segment Limits	Average Daily Traffic (ADT)						Linear Annual Growth Rate*
	1996	1997	1998	1999	2000	2001	
Avocado Drive (SW 296th Street) to Silver Palm Drive (SW 232nd Street)	7,700	10,700	10,900	12,000	13,500	14,100	13.92%
Silver Palm Drive (SW 232nd Street) to Eureka Drive (SW 184th Street)	8,400	10,900	10,900	12,500	15,100	14,600	14.61%
Eureka Drive (SW 184th Street) to Kendall Drive (SW 88th Street)	8,500	10,700	11,400	10,900	11,500	14,500	10.15%
Kendall Drive (SW 88th Street) to Tamiami Trail (SW 8th Street)	8,400	10,700	11,400	13,300	16,400	14,800	16.45%
Tamiami Trail (SW 8th Street) to US 27 (Okeechobee Rd)	5,500	6,700	7,200	7,600	8,300	9,000	11.26%

\* Linear Annual Growth Rate is based on the best-fit linear regression for the ADT data from 1996 to 2001.

The linear and logarithmic traffic projections for each study area roadway segment are shown in Figure 2-1 through Figure 2-5. The equations and R-squared values shown on the figures are from the logarithmic traffic projections.

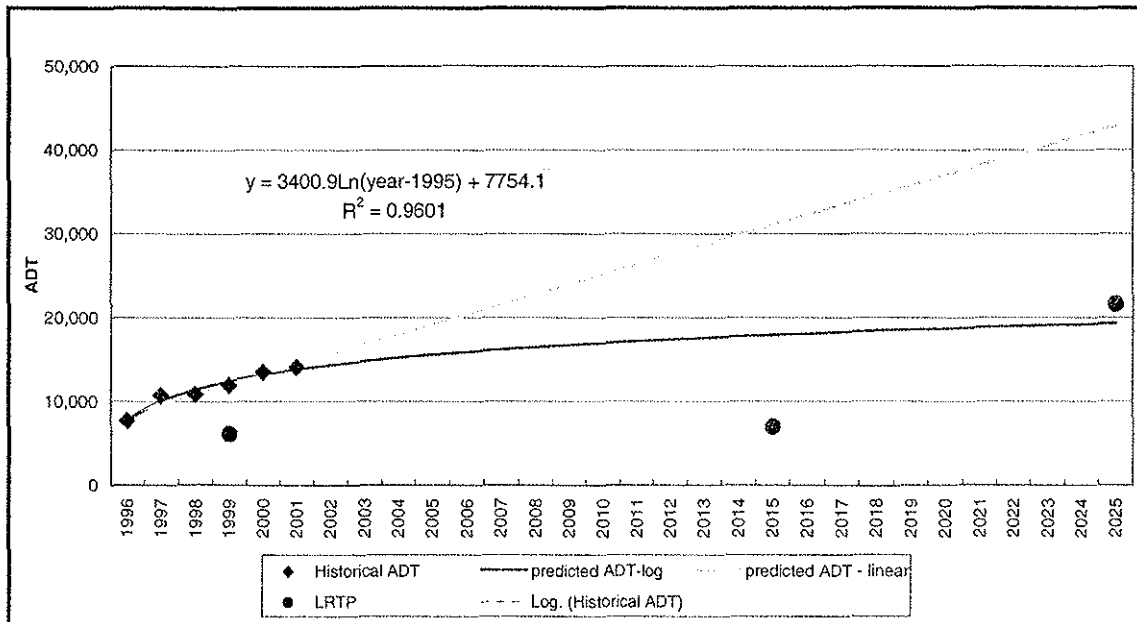
### Long-Range Transportation Plan

The linear and logarithmic regression traffic projections were compared to the traffic projections from the Long-Range Transportation Plan (LRTP) Model. Also plotted with the regression traffic projections shown in Figure 2-1 through Figure 2-5 are the ADT's for each study area roadway segment from the LRTP model years 1999, 2015, and 2025.

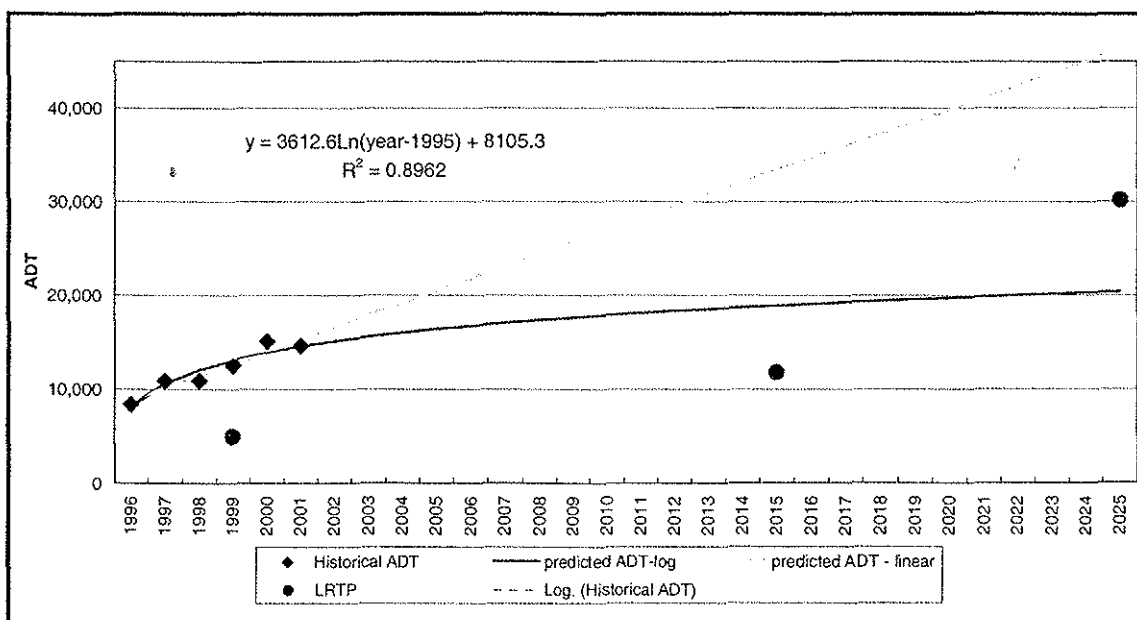
As shown in Figure 2-1 and Figure 2-4, the logarithmic traffic projections for the segments from Avocado Drive to Silver Palm Drive and from Kendall Drive to Tamiami Trail are similar in year 2025 to the Long-Range Transportation Plan (LRTP) Model projections. As shown in Figure 2-2 and

Figure 2-3 neither of the two regression lines for these two segments fit with the LRTP model for the Silver Palm Drive to Eureka Drive and Eureka Drive to Kendall Drive roadway segments. However, the logarithmic traffic projection is better than the linear projection from Silver Palm Drive to Eureka Drive considering both the 2015 and 2025 LRTP model points and from Eureka Drive to Kendall Drive considering both the 1999 and 2015 LRTP model points. The LRTP model data from Tamiami Trail to US 27 shown in Figure 2-5 cannot be used to help determine a future traffic projection for that segment given how low the ADTs from the LRTP are compared to the historical data.

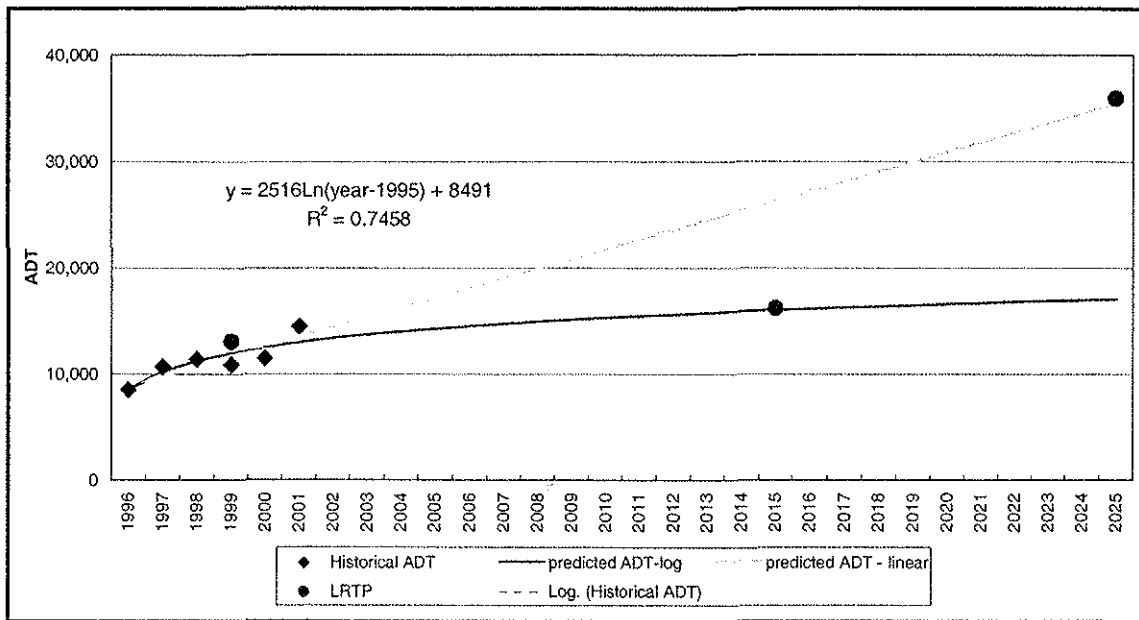
**Figure 2-1: Traffic Volume Projections, Avocado Drive to Silver Palm Drive**



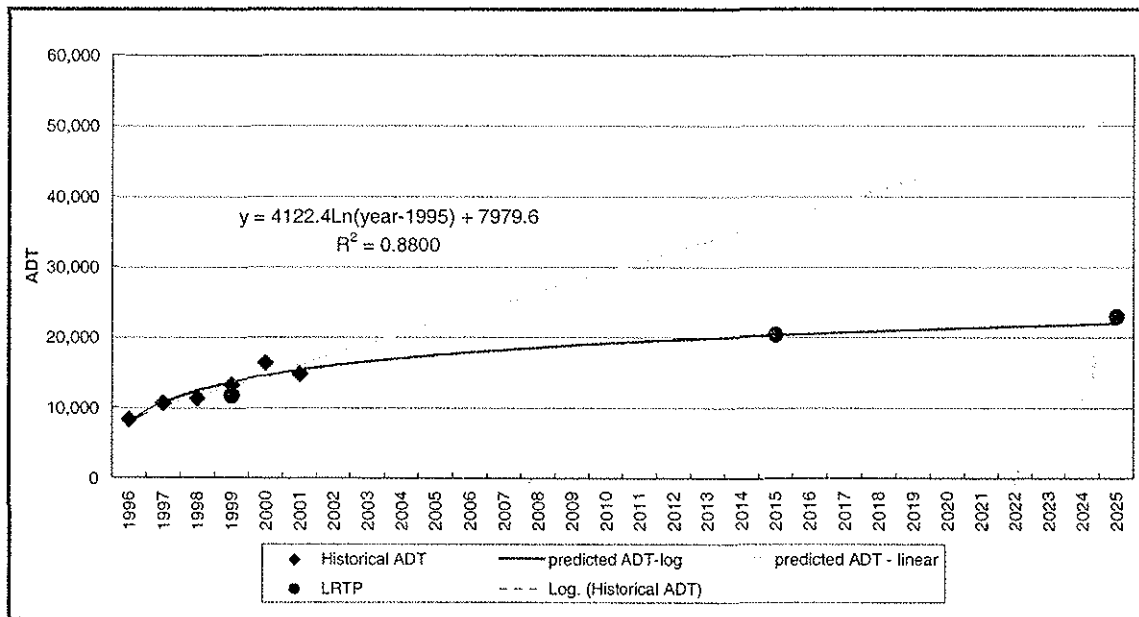
**Figure 2-2: Traffic Volume Projections, Silver Palm Drive to Eureka Drive**



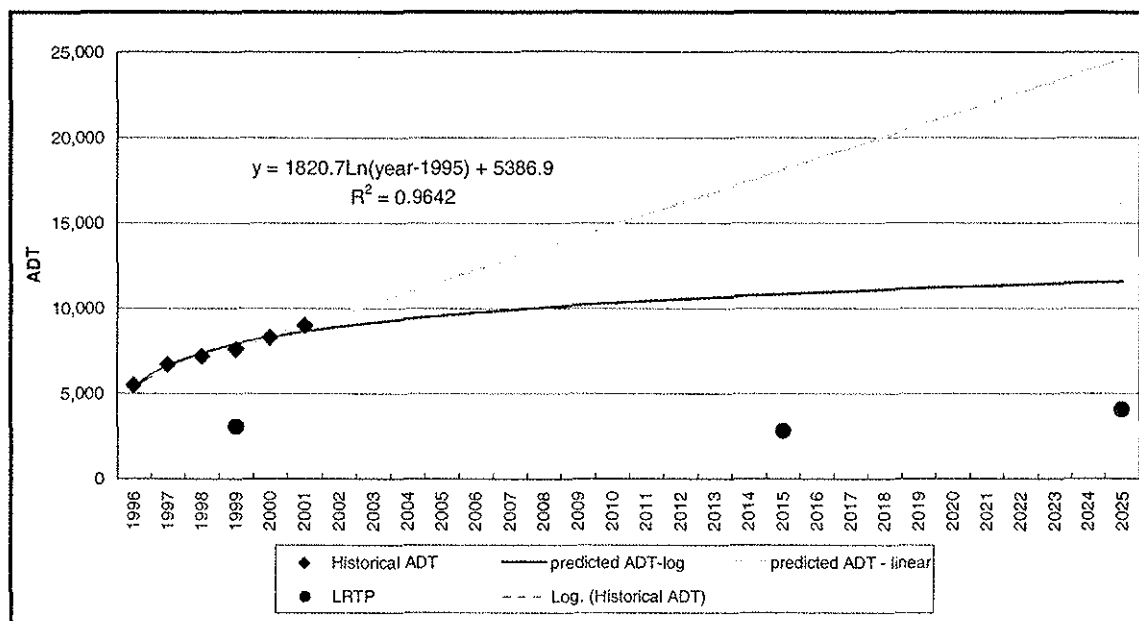
**Figure 2-3: Traffic Volume Projections, Eureka Drive to Kendall Drive**



**Figure 2-4: Traffic Volume Projections, Kendall Drive to Tamiami Trail**



**Figure 2-5: Traffic Volume Projections, Tamiami Trail to US 27**



### Projections: Linear vs. Logarithmic Regression Traffic Projections

Overall, the logarithmic regression traffic projections for each roadway segment were chosen as the better projection to determine the future analysis year traffic volumes. The logarithmic projection is more realistic of future growth for three reasons 1) a linear rate of traffic growth is not physically possible to sustain for an indefinite period of time, 2) the historical ADT data from 2000 and 2001 in some cases already shows a trend that is starting to level off (rate of growth is decreasing), and 3) as roadways become more congested, the rate of traffic growth decreases. In addition, the future land-use plan for the corridor does not indicate a significant change over the existing land-uses to warrant a continuation of the observed historical growth rates.

### Applied Growth Rates

The logarithmic growth rates for each segment were applied to the year 2002 traffic volumes to obtain the year 2010 and year 2020 traffic volume projections. They are shown in Table 2-2.

The growth rate for the segment between Eureka Drive to Kendall Drive was lower than the growth rates for the adjacent segments. Thus, to be conservative, the growth rate for this segment was based on the average growth rates of the segments directly to the north and south. The growth rate for the Kendall Drive to Tamiami Trail segment was applied to the Tamiami Trail to US 27 segment because the traffic volume projections for the Tamiami Trail to US 27 segment was the least reliable and because traffic volumes at the Krome Avenue/US 27 intersection must balance with the Krome Avenue/Tamiami Trail intersection.

The growth rate for US 27 (Okeechobee Road) from the LRTP model was applied to the through movements on US 27 at the Krome Avenue/US 27 intersection. The growth rate for Kendall Drive was applied to all turning movements in and out of Krome Avenue. These growth rates provide a very conservative volume projection for the intersection. Growth rates applied to each of the intersections are shown in Table 2-3.

Table 2-2: Applied Growth Rates By Segment

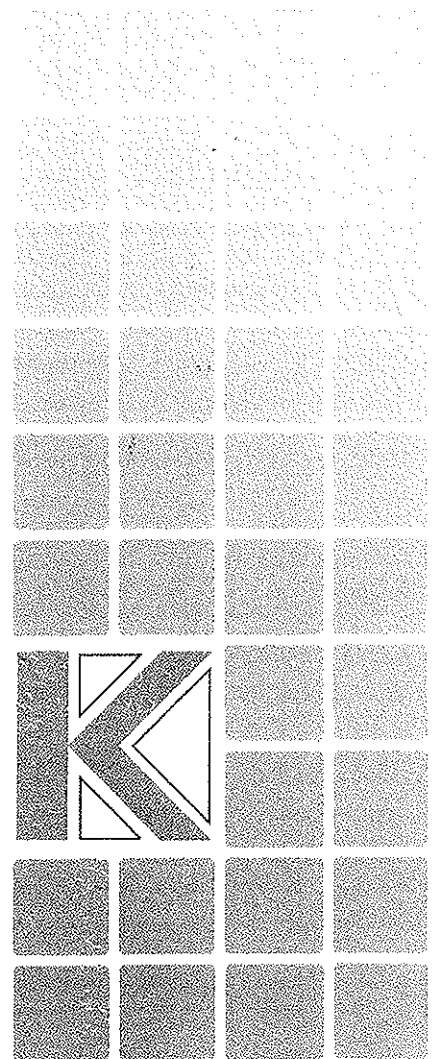
Segment Limits	Growth From 2002 to 2010	Growth from 2002 to 2020	Projected ADT		
			2002	2010	2020
Avocado Drive (SW 296th Street) to Silver Palm Drive (SW 232nd Street)	18.03%	30.12%	14,372	16,964	18,701
Silver Palm Drive (SW 232nd Street) to Eureka Drive (SW 184th Street)	18.19%	30.38%	15,135	17,888	19,734
Eureka Drive (SW 184th Street) to Kendall Drive (SW 88th Street)	18.91%	31.59%	13,387	15,919	17,616
Kendall Drive (SW 88th Street) to Tamiami Trail (SW 8th Street)	19.63%	32.80%	16,001	19,143	21,249
Tamiami Trail (SW 8th Street) to US 27 (Okeechobee Rd)	19.63%	32.80%	8,930	10,683	11,858

Table 2-3: Applied Growth Rates by Intersection

Intersection	2002 to 2010	2002 to 2020
Avocado Dr (SW 296 St)	18.0%	30.1%
Biscayne Dr (SW 288 St)	18.0%	30.1%
Epmore Dr (SW 272 St)	18.0%	30.1%
Bauer Dr (SW 264 St)	18.0%	30.1%
Coconut Palm Dr (SW 248 St)	18.0%	30.1%
Silver Palm Dr (SW 232 St)	18.1%	30.3%
Hainlin Mill Drive (SW 216 St)	18.2%	30.4%
Quail Roost Dr (SW 200 St)	18.2%	30.4%
Grossman Farm Rd (SW 192 St)	18.2%	30.4%
Eureka Dr (SW 184 St)	18.2%	30.4%
Howard Rd (SW 136 St)	18.2%	30.4%
Kendall Dr (SW 88 St)	18.6%	31.0%
Tamiami Trail (SW 8 St)	18.9%	31.6%
Okeechobee Rd (US 27) turning movements	18.9%	31.6%
Okeechobee Rd (US 27) through movements	24.9%	56.0%

## **Section 3**

### Roadway Improvements



### 3. Roadway Improvements

In general, Krome Avenue is a two-lane undivided roadway with exclusive left turn lanes provided at most of the signalized intersections. There are ten signalized intersections located on the corridor. The existing lane configurations and traffic control devices are shown on Figure 3-1.

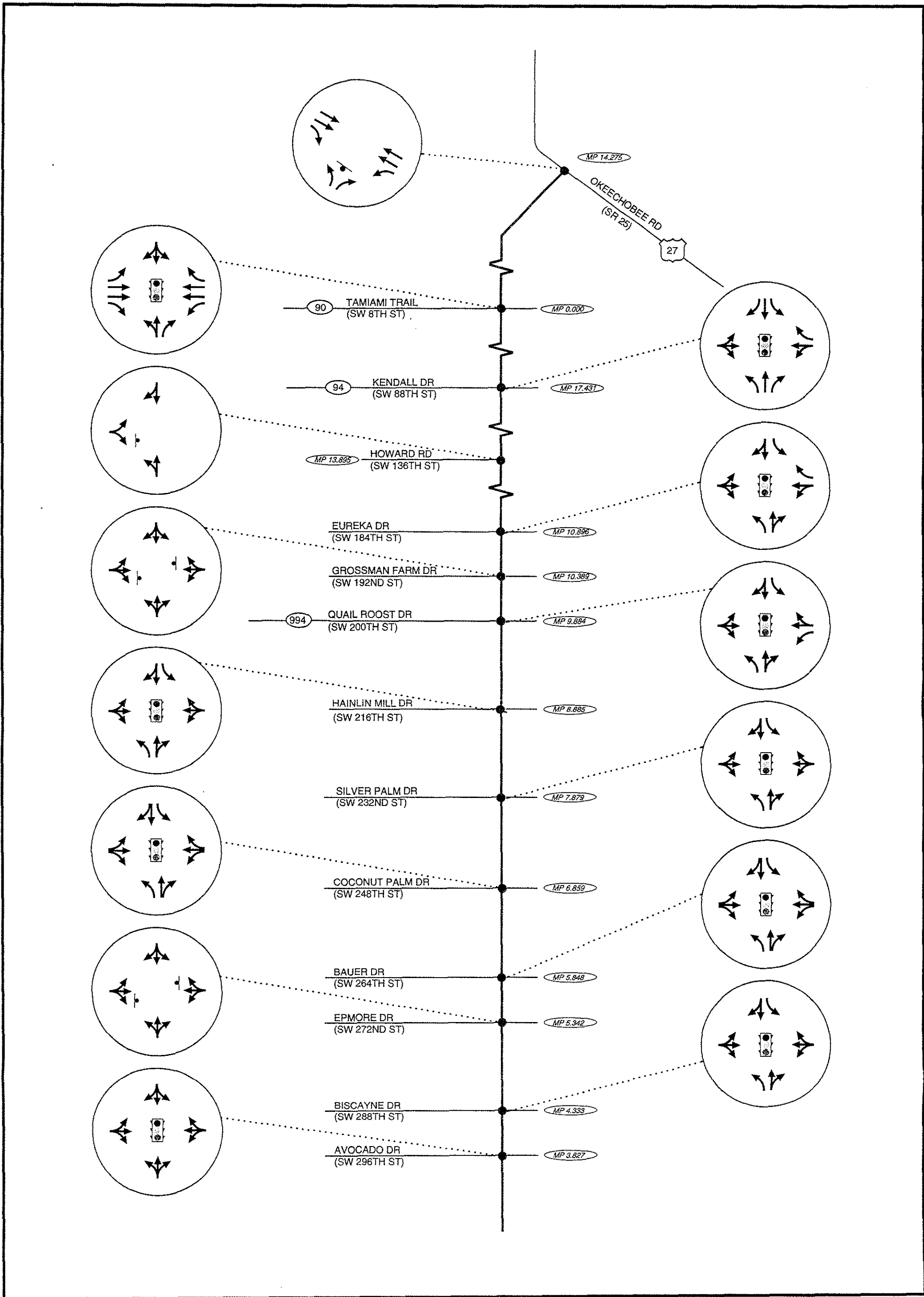
#### Action Plan

In October 1999, an Action Plan was completed for the entire length of Krome Avenue – from US 1 to Okeechobee Road (a length of 36.7 miles). (The northern 32.9 miles - beginning at Avocado Drive - comprise the portion of Krome Avenue that is the subject of this analysis.) This Action Plan was prepared in recognition that Krome Avenue is on the Florida Intrastate Highway System (FIHS) and that FIHS standards require that roadways on the FIHS system be designated as controlled-access facilities with a cross-section that provides for at least four lanes with a restrictive median.

During the Action Plan study, several alternatives were developed to maintain the rural character of Krome Avenue by maintaining it as a two-lane roadway. As a result of the technical analysis and sixteen months of public involvement activities, a series of safety and operational enhancements were recommended for the roadway. These improvements are described in Figure 3-2. The Action Plan describes a set of ultimate improvements that address mobility needs. They include intersection lane additions and traffic signal installations; access management and shoulder enhancements, the provision of passing zones, the addition of pedestrian and bicycle facilities, the provision of pavement marking and signage improvements, and the addition of clear recovery zones. A land-use overlay district was recommended for adoption to clarify parameters for development, to strengthen preservation measures, and to enhance the corridor's scenic qualities. This overlay district has not been established. In addition, none of the new traffic signals recommended for installation along the corridor are planned for installation.

#### Short Term Improvements

Some improvements that were recommended by the Action Plan are underway. First, a Project Development and Environment (PD&E) Study is in process south of Avocado Drive to consider the possibility of widening a portion of Krome Avenue (from US 1 to SW 328<sup>th</sup> Street) to a four lane-divided section. In conjunction with this PD&E Study, the City of Homestead is considering the possibility of providing for a truck bypass around the Historic District portion of Krome Avenue. Second, seven intersections are programmed for turn lane additions, improved return radii, signing and pavement markings, and lighting improvements: SW 296<sup>th</sup>, 272<sup>nd</sup>, 256<sup>th</sup>, 192<sup>nd</sup>, 168<sup>th</sup>, 136<sup>th</sup>, and 8<sup>th</sup> Street. At SW 8<sup>th</sup> Street (Tamiami Trail), the bridge north of the intersection is planned for widening. Five of these intersections are among the fourteen intersections included for analysis in this report. The future lane configurations at these five intersections are illustrated on Figure 3-3. Third, a one-mile long portion (beginning 1.7 miles north of Tamiami Trail) will have shoulders and rumble strips added to the edges of the roadway.



LEGEND

- STOP SIGN
- TRAFFIC SIGNAL

EXISTING LANE CONFIGURATIONS  
AND TRAFFIC CONTROL DEVICES

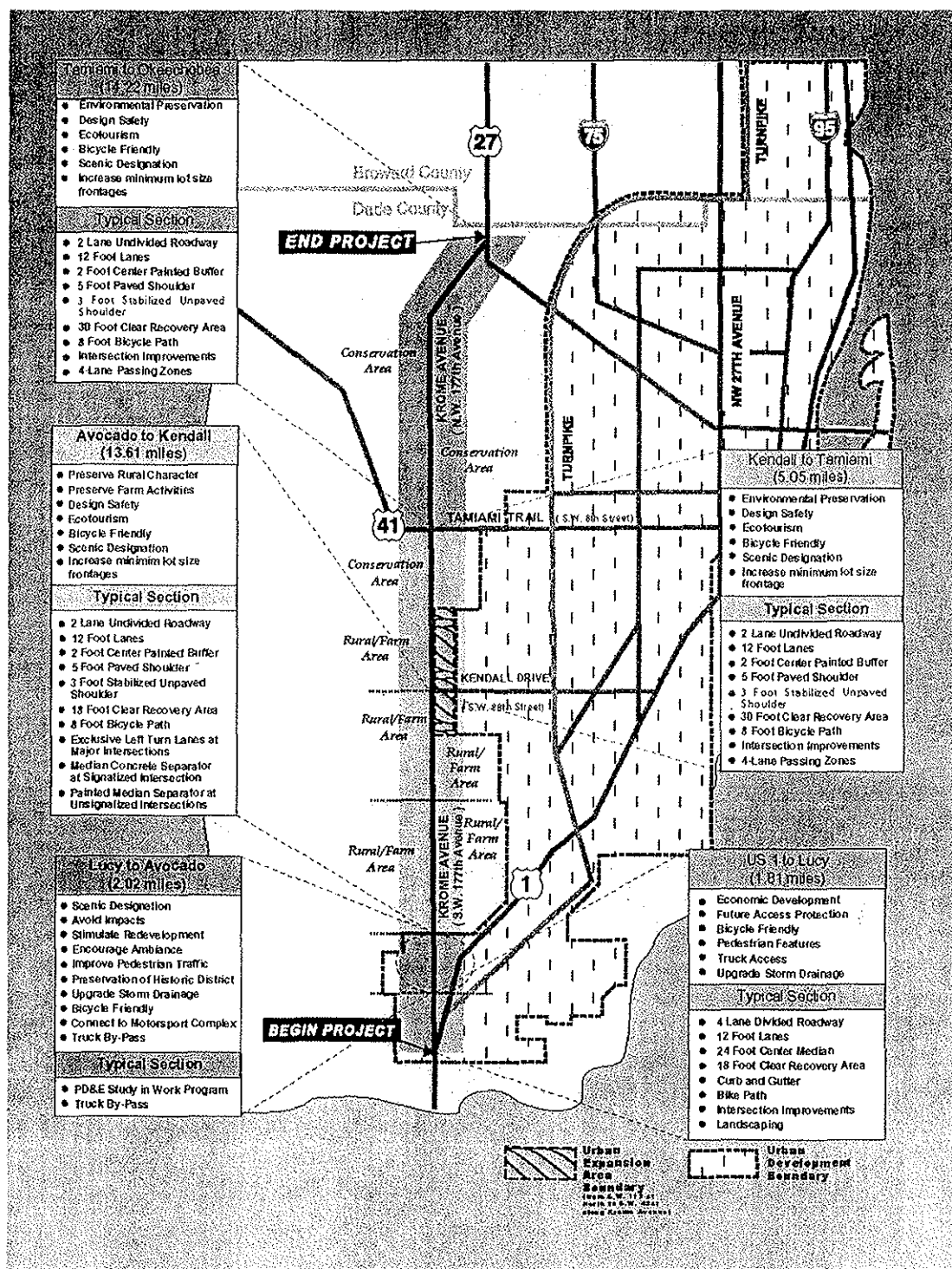
KROME AVENUE  
MIAMI-DADE COUNTY, FLORIDA  
OCTOBER 2002

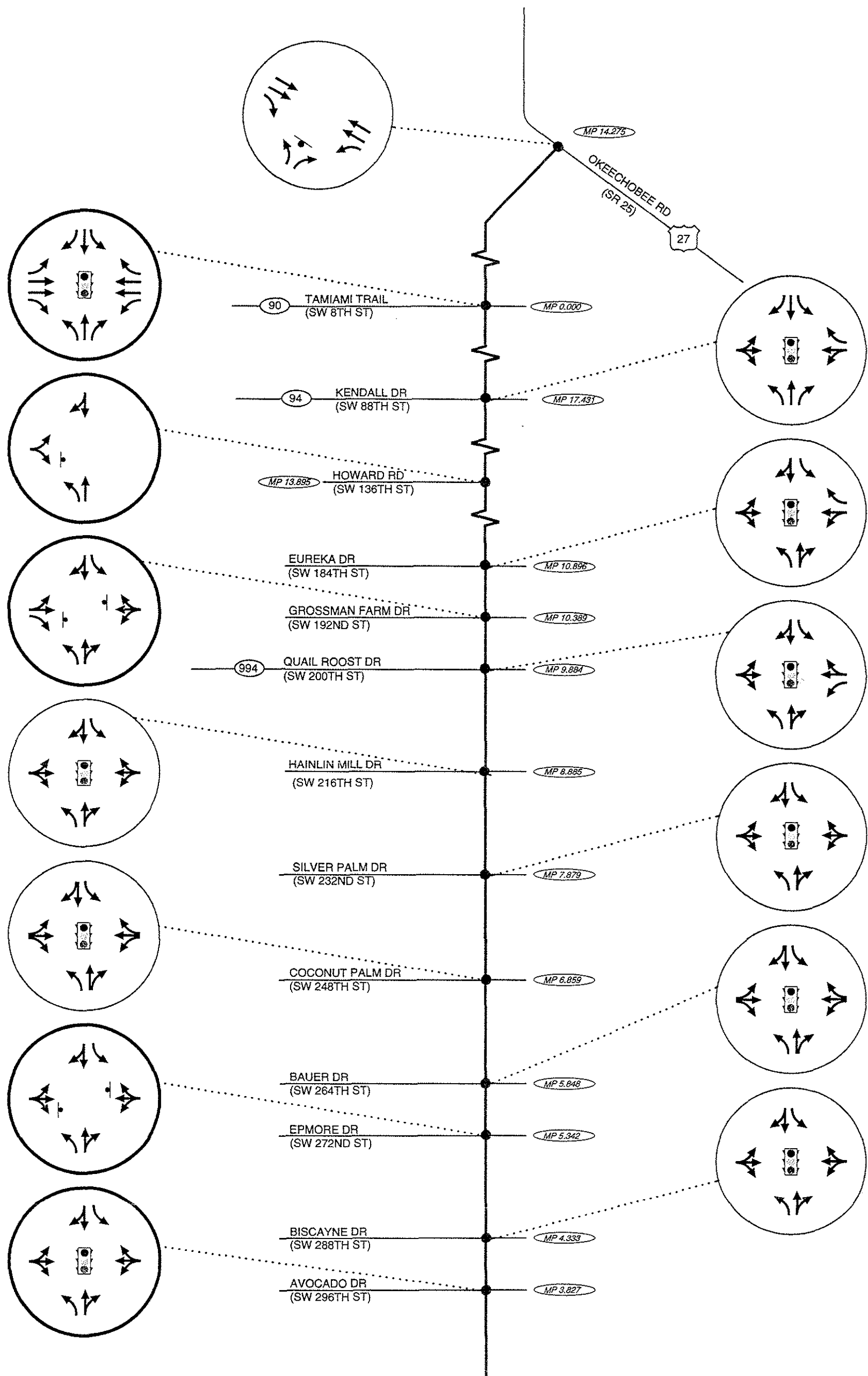
FIGURE  
3-1





# Krome Avenue Action Plan





NOTE: BOLD BUBBLE DIAGRAM IDENTIFIES INTERSECTIONS WITH IMPROVEMENTS SCHEDULED BEFORE YEAR 2010

**LEGEND**  
 STOP SIGN  
 TRAFFIC SIGNAL

# YEAR 2010 LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES

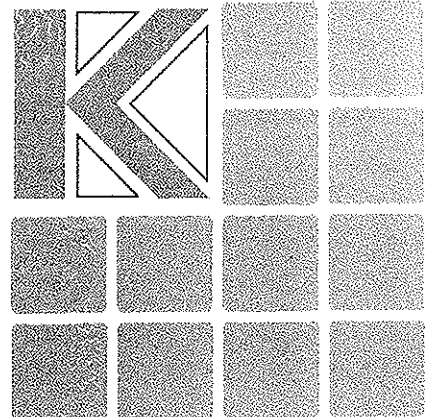
KROME AVENUE  
 MAIMI-DADE COUNTY, FLORIDA  
 OCTOBER 2002

FIGURE  
**3-3**



## **Section 4**

### Operational Analysis



## 4. Operational Analysis

An operational analysis was performed at 14 intersections to determine level of service based on a quantification of congestion and delay. In addition, an operational analysis was performed along Krome Avenue (broken into five segments) to determine level of service based on a quantification of travel speed and percent time spent following. This analysis was conducted for peak season weekday conditions occurring for the existing (year 2002) conditions as well as for 2010 and 2020 conditions.

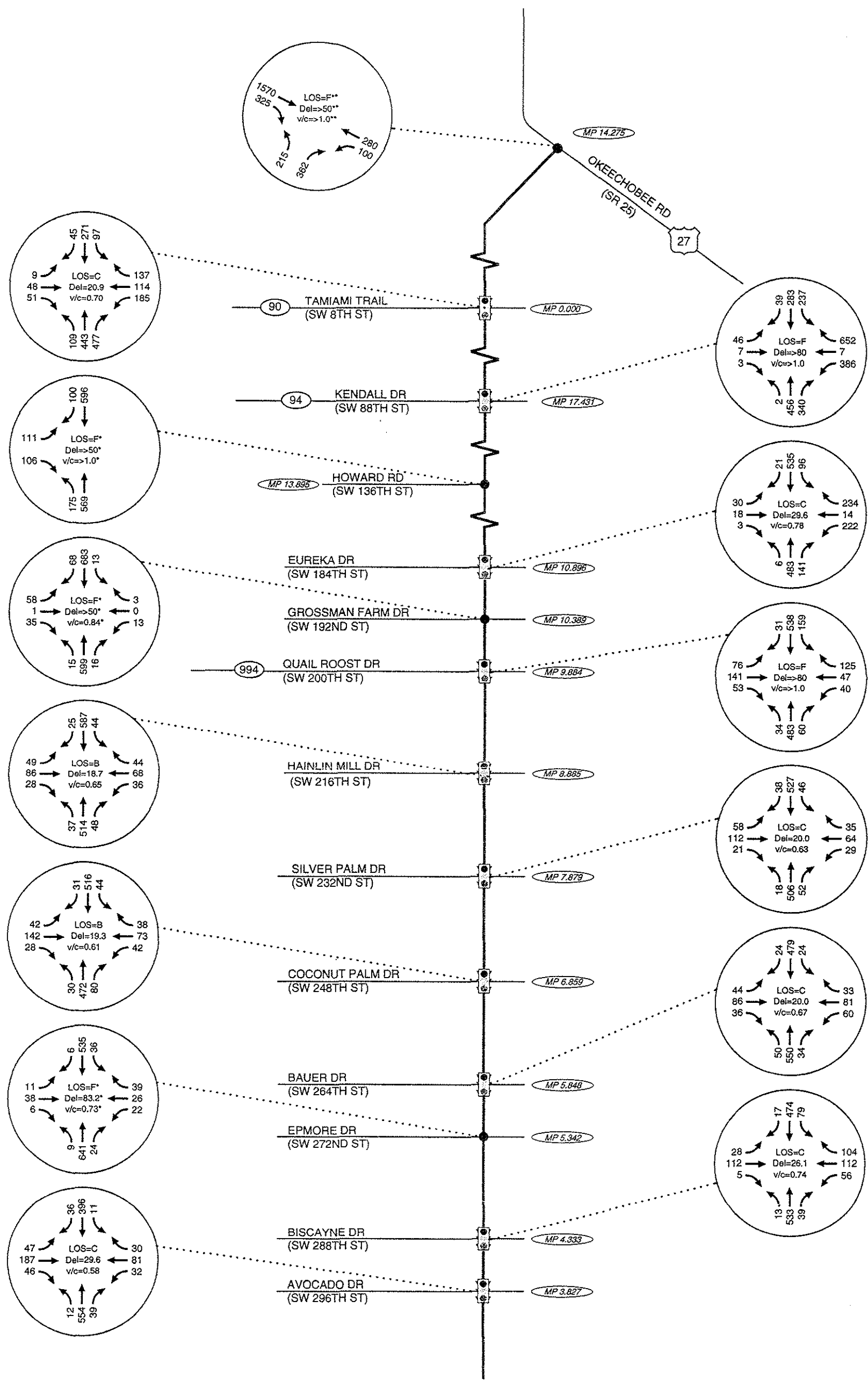
### Intersection Level of Service

Level of service (LOS) analysis was performed for ten signalized intersections using Highway Capacity Software (HCS-Signals). LOS analysis was also conducted for four unsignalized intersections using HCS-Unsignal.

The analysis assumptions are as follows:

- The existing intersection turning movement counts were collected for the morning peak hours and an overall intersection peak hour factor was calculated. The projected 2010 and 2020 turning movement counts were based on the analysis discussed in Section 2 –Traffic Volume Projections - in this report. The traffic volume growth factors for each intersection in the years 2010 and 2020 are presented in Table 2-3. The peak hour factors for 2010 and 2020 conditions remain the same as for existing conditions.
- Existing signal timings at the signalized intersections were obtained from FDOT District 6 Traffic Operations Office. This is consistent with the Phase I (existing conditions) analysis for this project. The existing timing was used without optimization. The existing signal timing was also used for 2010 and 2020 conditions without optimization.
- Intersection lane configurations and traffic control devices for existing and future conditions are shown in Figure 3-1 and Figure 3-3, respectively. The future intersection lane configurations assume the addition of turn lanes at four of the intersections.
- The percentage of heavy vehicles was separately applied to each intersection approach.
- Due to the unique geometry at the Krome Avenue/US 27 intersection, two-stage gap acceptance was assumed for the Krome Avenue approach left turn movement. This means that motorists make two separate decisions in finding an adequate gap in US 27 traffic – first for eastbound US 27 traffic and then for westbound US 27 traffic.

Intersection turning movement volumes, levels of service, Control Delay, and critical volume to capacity ratios for the 14 intersections are presented in Figure 4-1, Figure 4-2, and Figure 4-3. This information is summarized for comparative purposes in Table 4-1. It is assumed that Level of Service C is the acceptable standard north of SW 272<sup>nd</sup> Street and LOS D is the acceptable standard south of SW 272<sup>nd</sup> Street. . Today, six of the 14 intersections operate with an unacceptable level of delay (including all four of the unsignalized intersections that were analyzed). By 2010, nine of the 14 intersections will operate with an unacceptable level of delay. By 2020, ten of the 14 intersections will operate at an unacceptable level of delay.



\* FOR CRITICAL MOVEMENT, NOT INTERSECTION  
 \*\* USING TWO-STAGE GAP ACCEPTANCE

LEGEND	
LOS =	INTERSECTION LEVEL OF SERVICE
Del =	INTERSECTION CONTROL DELAY (SIGNALIZED)/ CRITICAL MOVEMENT DELAY (UNSIGNALIZED)
v/c =	CRITICAL VOLUME-TO-CAPACITY RATIO

### EXISTING TRAFFIC CONDITIONS

### WEEKDAY AM PEAK HOUR

KROME AVENUE

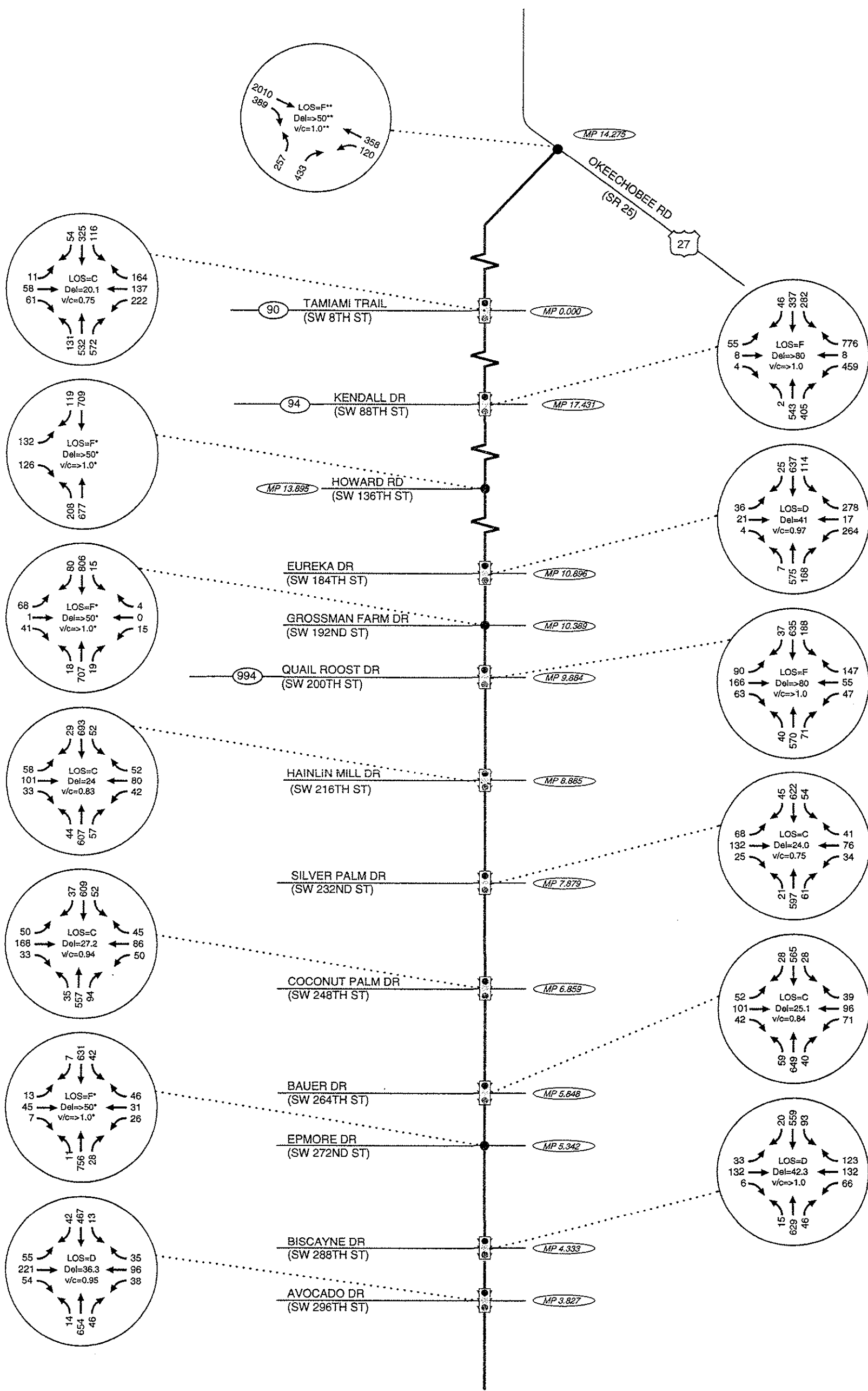
MIAMI-DADE COUNTY, FLORIDA

OCTOBER 2002

FIGURE

4-1

4533\_04krome.dwg



\* FOR CRITICAL MOVEMENT, NOT INTERSECTION  
 \*\* USING TWO-STAGE GAP ACCEPTANCE

#### LEGEND

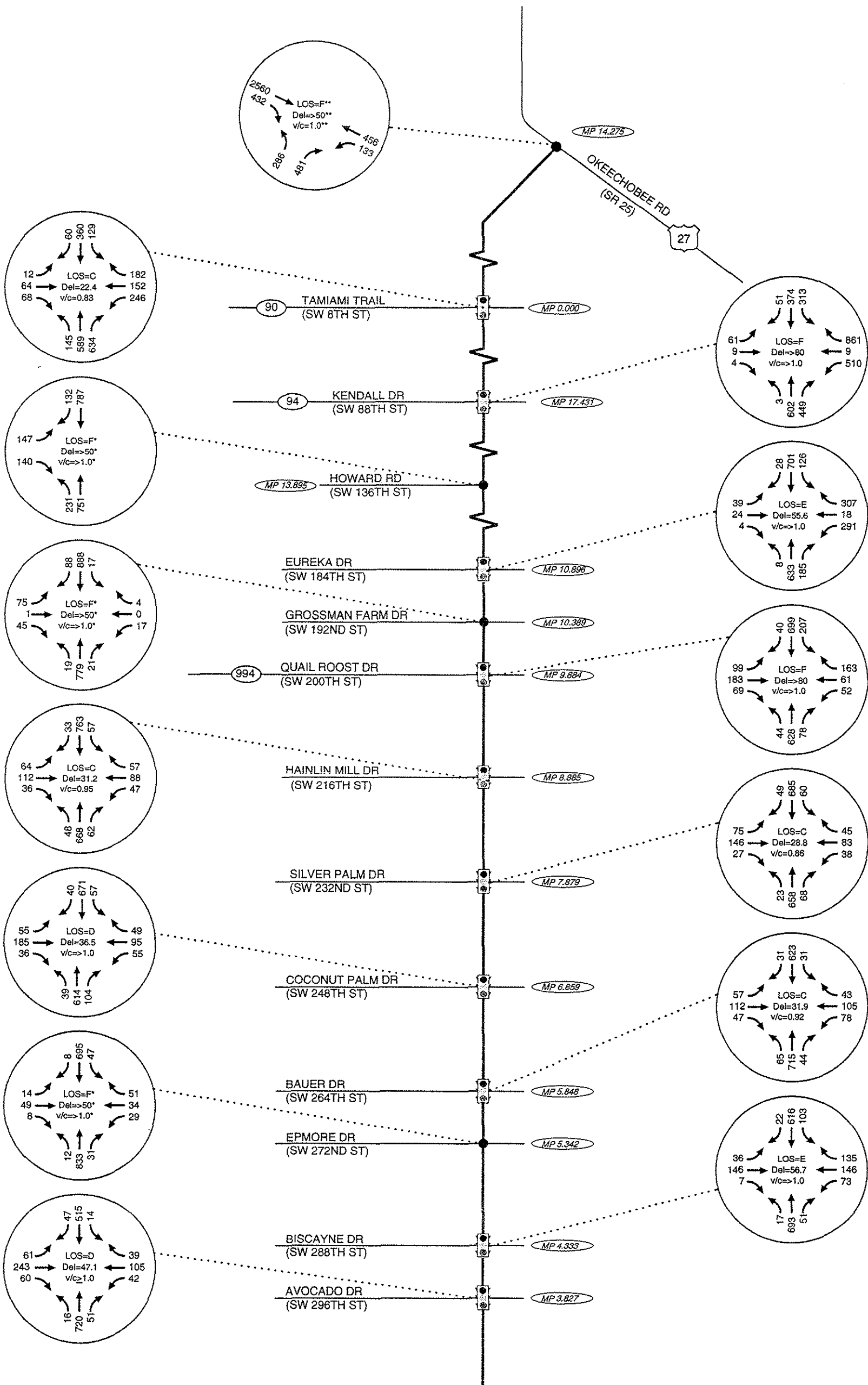
LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
 CRITICAL MOVEMENT DELAY (UNSIGNALIZED)  
 v/c = CRITICAL VOLUME-TO-CAPACITY RATIO

#### YEAR 2010 TRAFFIC CONDITIONS WEEKDAY AM PEAK HOUR

KROME AVENUE  
 MIAMI-DADE COUNTY, FLORIDA  
 OCTOBER 2002

FIGURE  
 4-2





\* FOR CRITICAL MOVEMENT, NOT INTERSECTION  
 \*\* USING TWO-STAGE GAP ACCEPTANCE

**LEGEND**

LOS = INTERSECTION LEVEL OF SERVICE

Del = INTERSECTION CONTROL DELAY (SIGNALIZED)/  
 CRITICAL MOVEMENT DELAY (UNSIGNALIZED)

v/c = CRITICAL VOLUME-TO-CAPACITY RATIO

**YEAR 2020 TRAFFIC CONDITIONS  
 WEEKDAY AM PEAK HOUR**

KROME AVENUE  
 MIAMI-DADE COUNTY, FLORIDA  
 OCTOBER 2002

FIGURE  
**4-3**

4533\_04krome.dwg

**Table 4-1: Intersection Levels of Service with Committed Improvements**

Intersection	2002			2010			2020		
	Critical v/c	Delay (sec)	LOS	Critical v/c	Delay (sec)	LOS	Critical v/c	Delay (sec)	LOS
Avocado Drive/SW 296 <sup>th</sup> Street	0.58	29.6	C	0.95	36.3	D	>1.0	47.1	D
Biscayne Drive/SW 288 Street	0.74	26.1	C	>1.0	42.3	D	>1.0	56.7	E
Epmore Drive/SW 272 Street*	0.73	>50.0	F	>1.0	>50	F	>1.0	>50	F
Bauer Drive/SW 264 Street	0.67	20.0	C	0.84	25.1	C	0.92	31.9	C
Coconut Palm Drive/SW 248 Street	0.61	19.3	B	0.94	27.2	C	>1.0	36.5	D
Silver Palm Drive/SW 232 Street	0.63	20.0	C	0.75	24.0	C	0.86	28.8	C
Hainlin Mill Drive/SW 216 Street	0.65	18.7	B	0.83	24.0	C	0.95	31.2	C
Quail Roost Drive/SW 200 Street	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
Grossman Farm Road/SW 192 Street*	0.84	>50.0	F	>1.0	>50.0	F	>1.0	>50.0	F
Eureka Drive/SW 184 Street	0.78	29.6	C	0.97	41.0	D	>1.0	55.6	E
Howard Road/SW 136 Street*	>1.0	>50	F	>1.0	>50	F	>1.0	>50	F
Kendall Drive/SW 88 Street	>1.0	>80	F	>1.0	>80	F	>1.0	>80	F
Tamiami Trail/SW 8 Street	0.70	20.9	C	0.75	20.1	C	0.83	22.4	C
Okeechobee Road/US 27*	>1.0	>50.0	F	>1.0	>50.0	F	>1.0	>50.0	F

\*Unsignalized intersections, the performance measures recorded are for the critical movement and NOT for the entire intersection.



### **Intersection Levels of Service with Potential Improvements**

To achieve a Level of Service C or better at each of the 14 intersections in 2010 and 2020, a series of potential improvements were considered. These potential improvements are described in Table 4-2. These improvements included consideration for installing traffic signals at the four unsignalized intersections, the adjustment of traffic signal timing at seven existing signalized intersections, and the addition of intersection approach turn lanes at five intersections (beyond those intersection turn lanes that are already committed for implementation). Assuming that these improvements are in place, Table 4-2 provides the resulting volume-to-capacity ratios and levels of service at the appropriate intersections. If these improvements were to be implemented, all of the intersections along Krome Avenue - except for the intersections with Kendall Drive and Okeechobee Road - would operate at an acceptable level of service. However, the addition of traffic signals at the four unsignalized intersections could add delay (and a resulting increase in travel time) for north-south travel along Krome Avenue. Thus, a traffic signal warrant analysis should be conducted and an evaluation of potential negative impacts to installing new traffic signals should be considered before committing to the installation of these new traffic signals.

### **Segment Level of Service**

An analysis of level of service was conducted for Krome Avenue for the divided five segments, as listed below:

- SW 296<sup>th</sup> Street (Avocado Drive) to SW 232<sup>nd</sup> Street (Silver Palm Drive) – 4.052 miles
- SW 232<sup>nd</sup> Street (Silver Palm Drive) to SW 184<sup>th</sup> Street (Eureka Drive) – 3.017 miles
- SW 184<sup>th</sup> Street (Eureka Drive) to SW 88<sup>th</sup> Street (Kendall Drive) – 6.535 miles
- SW 88<sup>th</sup> Street (Kendall Drive) to SW 8<sup>th</sup> Street (Tamiami Trail) – 4.999 miles
- SW 8<sup>th</sup> Street (Tamiami Trail) to US 27 (Okeechobee Road) – 14.275 miles

Many of the input parameters, such as heavy vehicle percentages and through approach green time, were imported directly from the signalized intersection analysis. For analysis purposes, the two southernmost segments (from Avocado Dr/SW 296<sup>th</sup> Street to Eureka Dr/SW 184<sup>th</sup> Street) were considered “suburban” due to the relatively high traffic signal density (about one signal per mile). The Urban Street analysis procedure was used for this analysis. Travel time (and average travel speed) is the service measure used to determine level of service. The northernmost segments (from Eureka Dr/SW 184<sup>th</sup> St to US 27/Okeechobee Road) were considered as rural highway segments. These segments were classified as Class 1 Two-Lane Highway segments. For this reason, a combination of travel time and the percent time-spent-following other vehicles are the service measures used to determine level of service. The analysis assumptions are as follows:

- For all five segments, from Avocado Drive to Okeechobee Road, the free flow speed is assumed to be 5 mph higher than the average posted speed limit (calibrated to better reflect the field observation).
- For the calculation of segment level of service and v/c ratio, the percentage of heavy vehicles was input by intersection approach and was imported from the signalized intersection analysis. Thus, the operation of each segment of Krome Avenue reflects the impact of the large percentage of heavy vehicles on the highway.

Travel time and delay runs were conducted in both directions on Krome Avenue to measure the actual travel times by segment. These field-measured travel time runs compared favorably with the calculated travel time runs (using Highway Capacity software), thereby validating the results for the estimation of future levels of service. The results for the existing and future segment level of service analysis are summarized in Table 4-3.

It is evident that the two southernmost segments operate at an acceptable level of service while the three northernmost segments operate at an unacceptable level of service. This difference in results is due to the different methodologies applied. (The minimum Level of Service C travel speed threshold is 27 mph for an Urban Street and 45 mph for a two-lane rural highway.) Thus, the calculated speeds north of Eureka Drive do not meet motorist expectations for a Class 1 Rural Highway. There are two conclusions that were drawn from this analysis.

- The travel speeds for the three northernmost segments between traffic signals are close to the posted speed limits. However, delay at the signalized intersections significantly reduces the overall segment travel speeds. Thus, improved traffic signal timing and the addition of intersection approach turn lanes north of SW 184<sup>th</sup> Street could improve the level of service performance of these three segments. However, the addition of traffic signals at Howard Street (SW 136<sup>th</sup> Street) and Okeechobee Road (US 27) could counteract this improvement in travel speed by adding delay to motorists traveling along Krome Avenue.
- The high degree of percent time-spent-following north of SW 184<sup>th</sup> Street (shown in Table 4-3) indicates that a large percentage of motorists along Krome Avenue are not able to travel at their desired speed due to 1) the presence of slow-moving vehicles in front of them and 2) limited passing opportunities due to the frequency of vehicles traveling in the opposite direction. (The Level of Service C threshold value for a Class 1 two-lane highway is 65% time-spent-following.) The percent time-spent-following of 66.7% and greater beginning in 2010 is the primary reason for the unacceptable segment levels of service in 2010 and 2020. Thus, either passing lanes or four-lane sections could be considered to reduce or eliminate this situation.

**Table 4-2: Intersection Level of Service with Potential Improvements**

Intersection	2010			2020		
	Potential Intersection Improvement	Critical v/c	LOS	Potential Intersection Improvement	Critical v/c	LOS
Avocado Drive/SW 296th Street*	Signal Timing Optimization	0.82	B	Signal Timing Optimization	0.85	B
Biscayne Drive/SW 288 Street	Signal Timing Optimization	0.83	B	Signal Timing Optimization	0.93	C
Epmore Drive/SW 272 Street*	Add Signal	0.87	B	Add Signal	0.92	B
Bauer Drive/SW 264 Street	None	0.84	C	None	0.92	C
Coconut Palm Drive/SW 248 Street	None	0.94	C	Signal Timing Optimization	0.73	B
Silver Palm Drive/SW 232 Street	None	0.75	C	None	0.86	C
Hainlin Mill Drive/SW 216 Street	None	0.83	C	None	0.95	C
Quail Roost Drive/SW 200 Street	Add EB Exclusive LT Lane & Optimize Signal Timing	0.79	B	Add EB Exclusive LT Lane & Optimize Signal Timing	0.79	B
Grossman Farm Road/SW 192 Street*	Add Signal	0.75	A	Add Signal	0.87	B
Eureka Drive/SW 184 Street	Add NB Exclusive RT Lane & Signal Timing Optimization	0.79	C	Add NB Exclusive RT Lane & WB Exclusive LT lane Signal Timing Optimization	0.87	C
Howard Road/SW 136 Street*	Add Signal	0.78	B	Add Signal	0.81	B
Kendall Drive/SW 88 Street	EBLT, WBLT, WB Left-Through shared Lane, WB Dual RT, SB Dual LT & Signal Timing Optimization	0.87	C	EBLT, WBLT, WB Left-Through shared Lane, WB Dual RT, SB Dual LT & Signal Timing Optimization	0.97	C
Tamiami Trail/SW 8 Street*	None	0.75	C	None	0.83	C
Okeechobee Road/US 27	Add Signal	1.02 (WB LT)	B	Add Signal	1.13 (WB LT)	E

\* Intersections with committed geometry improvements

**Table 4-3: Segment Levels of Service for the Morning Peak Hour**

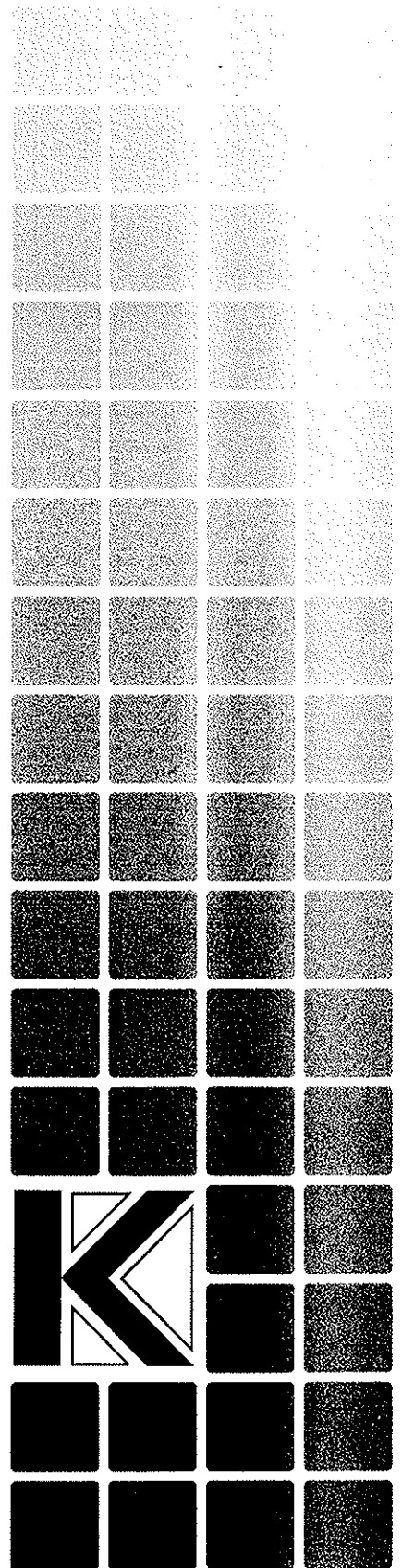
Analysis Criteria	Segment Limits	2002				2010				2020			
		Free flow Speed (mph)	Travel Speed (mph)	Percent Time-spent-Following	LOS	Free flow Speed (mph)	Travel Speed (mph)	Percent Time-spent-Following	LOS	Free flow Speed (mph)	Travel Speed (mph)	Percent Time-spent-Following	LOS
Suburban Arterial Analysis	Avocado Dr/SW 296 <sup>th</sup> Street to Eureka Dr/ SW 184 <sup>th</sup> Street (NB)	N/a	40.9	N/a	B <sup>(1)</sup>	N/a	38.3	N/a	B <sup>(1)</sup>	N/a	36.4	N/a	B <sup>(1)</sup>
	Avocado Dr/SW 296 <sup>th</sup> Street to Eureka Dr/ SW 184 <sup>th</sup> Street (SB)	N/a	41.3	N/a	B <sup>(1)</sup>	N/a	39.6	N/a	B <sup>(1)</sup>	N/a	38.8	N/a	B <sup>(1)</sup>
Two-Lane Rural Highway Analysis	Eureka Dr/ SW 184 <sup>th</sup> Street to Kendall Drive/SW 88 <sup>th</sup> Street	46.9	36.0	70.9%	E <sup>(2)</sup>	46.9	33.9	76.7%	E <sup>(2)</sup>	46.9	32.9	80.0%	E <sup>(2)</sup>
	Kendall Drive/SW 88 <sup>th</sup> Street to Tamiami Trail/SW 8 <sup>th</sup> Street	53.5	41.6	75.0%	D <sup>(2)</sup>	53.5	39.5	80.5%	E <sup>(2)</sup>	53.5	38.0	83.4%	E <sup>(2)</sup>
	Tamiami Trail/SW 8 <sup>th</sup> Street to US27/Okeechobee Road	59.8	51.5	60.8%	C <sup>(2)</sup>	59.8	50.1	66.7%	D <sup>(2)</sup>	59.8	49.3	69.5%	D <sup>(2)</sup>

(1) based on HCM 2000 LOS Criteria for Urban Streets in Class I (Exhibit 15-2)

(2) based on HCM 2000 LOS Criteria for Two-Lane Highways in Class I (Exhibit 20-3)

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**Section 5**  
Safety Analysis



## 5. Safety Analysis

In addition to the safety analysis that was completed for Phase I, the number of total crashes along Krome Avenue from 1995 to 1999 was re-examined to further study several other factors: the driver's contributing cause to the crash, the crash severity, and the vehicle types involved in the crash. In addition, a further investigation of severe injury (1995 to 1999) and fatal crashes (1995 to July 2002) was conducted. This portion of the report presents the findings of this safety analysis.

### Total Crash Results

As noted in the Phase I report, crash data for the Krome Avenue corridor was obtained from FDOT for analysis. Safety ratios at 17 intersections were calculated by comparing the calculated actual crash rates and the documented Florida critical crash rates. Intersections with a safety ratio of greater than 1.0 were considered high crash locations, as listed below:

- Coconut Palm Drive/SW 248<sup>th</sup> Street: 1.019 in 1998
- Howard Road/SW 136<sup>th</sup> Street: 1.187 in 2000
- Kendall Drive/SW 88<sup>th</sup> Street: 1.866 in 1996
- Tamiami Trail/SW 8<sup>th</sup> Street: ranging from 1.493 in 1996 to 2.251 in 1999
- Okeechobee Road/US27: 1.327 in 1996 and 1.393 in 1999

Crashes were divided by segment using the milepost location as an indicator. Safety ratios for each of the five segments were found. The safety ratios for each of the five segments were above 1.0 for at least three years of the five years analyzed. The percentage of crashes occurring at the intersections ranged from 74.2% in the southernmost segment (Avocado Drive to Silver Palm Drive) to 30.6% in the northernmost segment (Tamiami Trail to Okeechobee Road). As the distance between intersections increases, the percentage of crashes occurring at the intersections decreases.

Table 5-1 shows the summary of crashes from 1995 to 1999 by category. For total crashes, the top five documented harmful events were rear-end, angle, hit tree/shrub, sideswipe and left-turn. Head-on is ranked eighth with only 2.8% of all crashes. Over 70% of crashes that occurred at night were at locations with no streetlights. This percentage confirms that streetlights are not available throughout most of the length of the corridor.

The fatal crash rate and the fatality rate for the years 1995 to 2000 were calculated and are illustrated in Figure 5-1. Of the five segments analyzed, the segment from Eureka Drive to south of Kendall Drive had the highest fatal crash rate. In a length of less than 5 miles, there were 14 fatal crashes from 1996 to 2001. Fatal crashes will be discussed in more detail later in this chapter.

**Table 5-1: Summary of Crashes by Category**

	1995	1996	1997	1998	1999	Total	Percentage
<b>Harmful Event</b>							
Rear End	32	48	64	78	77	299	31.0%
Angle	20	31	33	32	43	159	16.5%
Tree/Shrub	7	20	23	18	19	87	9.0%
Sideswipe	16	10	14	31	13	84	8.7%
Left Turn	15	14	19	16	18	82	8.5%
Ran into Ditch/Culvert	4	9	5	8	13	39	4.0%
Overturn	4	6	6	9	12	37	3.8%
Head on	2	6	9	4	13	34	3.5%
Pole	4	3	4	5	3	19	2.0%
Moveable Object on Road	1	1	3	3	6	14	1.4%
Right Turn	2	0	2	6	1	11	1.1%
Ran off Road into Water	2	2	0	1	6	11	1.1%
Guardrail	2	0	2	3	3	10	1.0%
Pedestrian	1	2	0	2	2	7	0.7%
Other and Unknown	10	12	11	17	23	73	7.6%
TOTAL	122	164	195	233	252	966	
<b>Lighting</b>							
Daylight	72	110	135	166	175	658	68.1%
Dark (no street light)	31	36	35	33	41	176	18.2%
Dark (street light)	12	10	15	14	15	66	6.8%
Other and Unknown	7	8	10	20	21	66	6.8%
TOTAL	122	164	195	233	252	966	
<b>Weather</b>							
Dry	56	86	81	113	134	470	48.7%
Cloudy	50	55	79	90	81	355	36.7%
Rain	13	19	32	27	29	120	12.4%
Other and Unknown	3	4	3	3	8	21	2.2%
TOTAL	122	164	195	233	252	966	
<b>Road Surface</b>							
Dry	97	129	151	187	206	770	79.7%
Wet	22	34	40	42	38	176	18.2%
Slippery	2	0	2	3	2	9	0.9%
Other and Unknown	1	1	2	1	6	11	1.1%
TOTAL	122	164	195	233	252	966	
<b>Site Location</b>							
Not at Int/RRXing/Bridge	54	73	96	131	127	481	49.8%
At Intersection	51	71	80	77	95	374	38.7%
Driveway Access	8	7	10	17	16	58	6.0%
Influenced by Intersection	7	9	7	6	10	39	4.0%
R/R Crossing	0	1	0	2	1	4	0.4%
Bridge	0	1	0	0	1	2	0.2%
Other and Unknown	2	2	2	0	2	8	0.8%
TOTAL	122	164	195	233	252	966	
<b>Severity</b>							
Fatal	3	3	2	3	5	16	1.7%
Injury	73	104	108	117	147	549	56.8%
PDO	46	57	85	113	100	401	41.5%
TOTAL	122	164	195	233	252	966	



Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	3.49	3.49
1997	5.73	14.32
1998	5.33	5.33
1999	--	--
2000	4.62	4.62
2001	6.40	12.79

TAMIAMI TRAIL to OKEECHOBEE RD

Year	Safety Ratio
1995	0.704
1996	1.484
1997	1.430
1998	1.579
1999	1.892
2000	1.542

TAMIAMI TRAIL to OKEECHOBEE RD

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	8.43	25.29
1996	--	--
1997	--	--
1998	--	--
1999	8.24	12.36
2000	6.68	6.68
2001	3.70	3.70

KENDALL DR to south of TAMIAMI TRAIL

Year	Safety Ratio
1995	0.877
1996	1.023
1997	0.973
1998	1.281
1999	1.280
2000	1.359

KENDALL DR to south of TAMIAMI TRAIL

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	9.86	9.86
1997	--	--
1998	3.67	3.67
1999	3.84	3.84
2000	10.93	14.57
2001	20.22	26.00

EUREKA DR to south of KENDALL DR

Year	Safety Ratio
1995	0.992
1996	1.127
1997	0.506
1998	0.952
1999	1.279
2000	1.422

EUREKA DR to south of KENDALL DR

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	--	--
1996	--	--
1997	--	--
1998	--	--
1999	7.26	7.26
2000	--	--
2001	--	--

SILVER PALM DR to south of EUREKA DR

Year	Safety Ratio
1995	1.242
1996	1.309
1997	1.778
1998	1.700
1999	2.233
2000	1.579

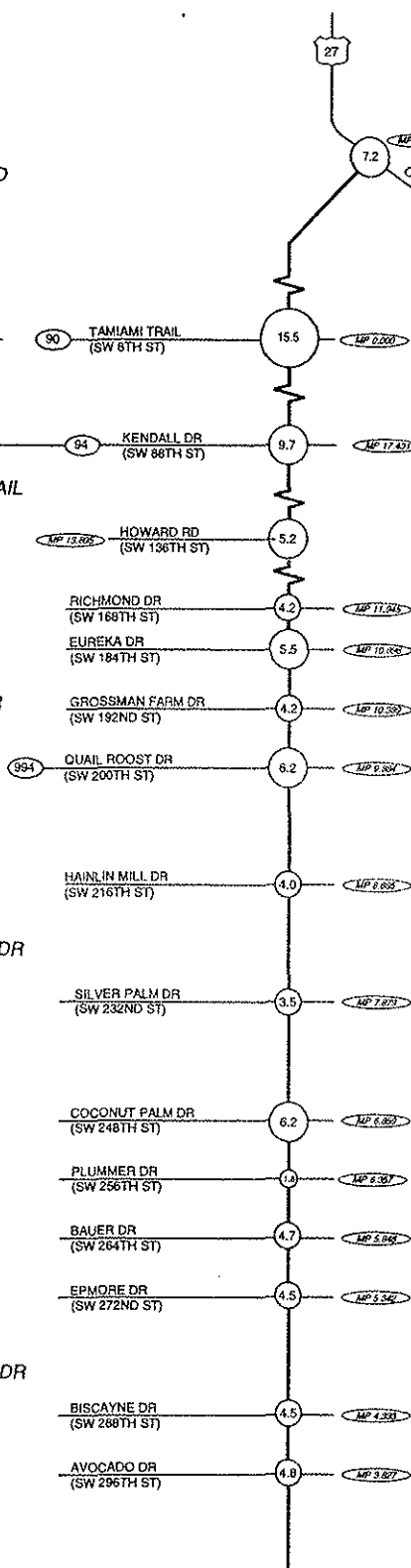
SILVER PALM DR to south of EUREKA DR

Year	Segment Fatal Crash Rate	Segment Fatality Rate
1995	17.13	17.13
1996	--	--
1997	--	--
1998	--	--
1999	5.64	5.64
2000	5.01	5.01
2001	4.80	9.60

AVOCADO DR to south of SILVER PALM DR

Year	Safety Ratio
1995	1.658
1996	1.787
1997	1.920
1998	1.921
1999	1.952
2000	1.384

AVOCADO DR to south of SILVER PALM DR



## LEGEND

4.2 Average Annual Number of Crashes (1995-1999)

## SUMMARY OF SAFETY ANALYSIS

KROME AVENUE  
MIAMI-DADE COUNTY, FLORIDA  
OCTOBER 2002

FIGURE  
5-1



CRASHRATES



## Contributing Cause

Contributing cause was listed for each of the vehicles involved in a crash as a means to assign responsibility for the crash. Most of the crashes had more than one vehicle involved. This means that more than one 'contributing cause' was coded. After reviewing this parameter two-dimensionally, it was found that most of the crashes had only one main cause. For the study corridor, the primary causes included: failed to yield right of way, improper passing, improper lane change, improper turn, and disregarded traffic signal (See Figure 5-2).

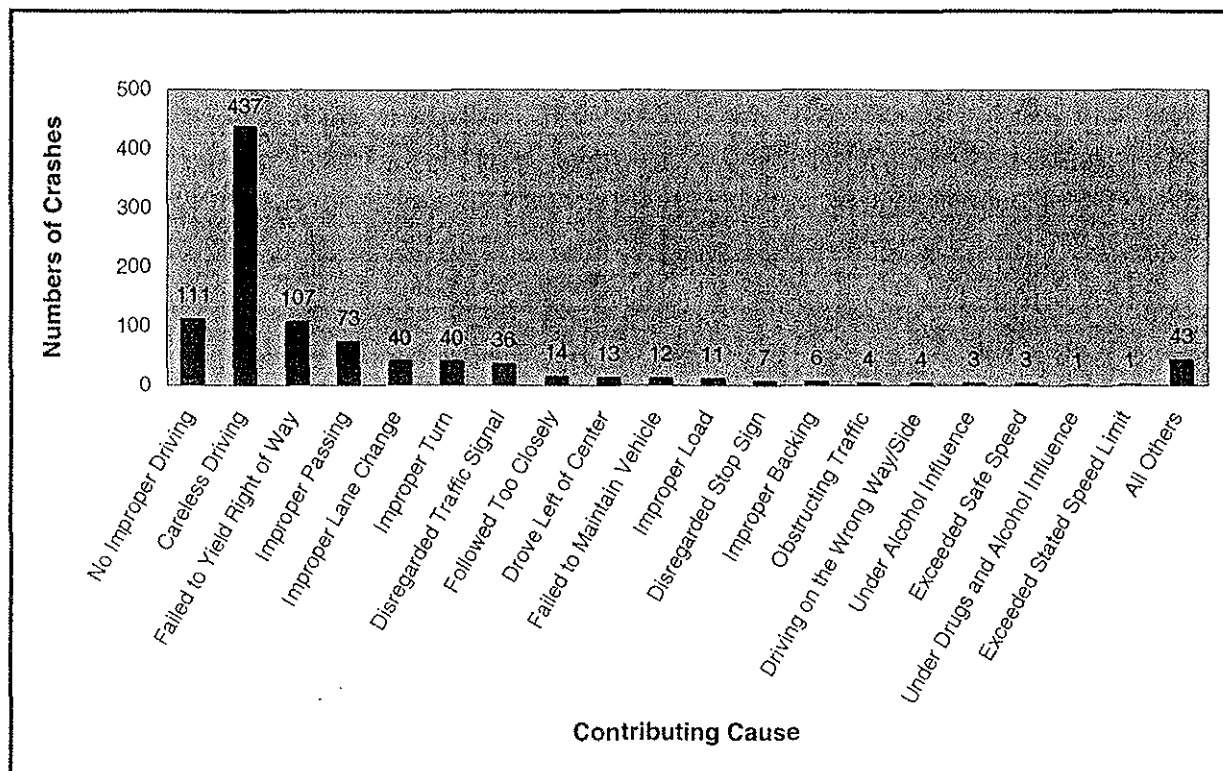


Figure 5-2: Total Number of Crashes by Contributing Cause

## Vehicle Types

All of the crashes that occurred from 1995 to 1999 were classified into 13 vehicle types. On a daily basis, the percentage of trucks traveling on Krome Avenue ranges from 26% to 32% of the total number of vehicles. Of all the vehicles involved in the crashes, 3.5% involved medium trucks (4 rear wheels), 3.2% involved heavy trucks (2 or more rear axles), and 5.3% involved truck tractor (cab-bobtail). In some cases, trucks may have had an influence on crashes, but were not directly involved in the crash.

### Fatal Crashes

The fatal crash summary was updated to include the crashes that occurred from March to July 2002. After reviewing the fatal crash report, some discrepancies were found. The fatal crash rate and fatality rate were updated to reflect the correct data (Figure 5-1).

**Table 5-2: Summary of Fatal Crashes and Fatalities (Jan 1995-Jul 2002)**

Year	1995	1996	1997	1998	1999	2000	2001	2002 (Jan-July)
Fatal Crashes	3	3	2	3	5	8	12	6
Fatalities	5	3	5	3	6	9	18	9

As can be seen in Table 5-2, the number of fatal crashes increased significantly beginning in the year 2000. For the first seven months of the year 2002, the data indicates a similar trend in an increasing number of fatal crashes experienced in the corridor. All 42 fatal crashes that have occurred since 1995 were also plotted by milepost (Figure 5-3).

Fifteen of the 42 fatal crashes were head-on crashes. These 15 fatal crashes accounted for 24 fatalities (41% of all fatalities). In 2001, three fatal crashes occurred within a 0.2-mile portion of Krome Avenue (MP 14.868 to MP 15.070), accounting for five fatalities. Fatal crash sites were observed and some observations are noted in Table 5-4.

### Severe Injury Crashes

The detailed crash reports obtained from the Florida Department of Transportation were coded directly from the Police Reports prepared by officers at the crash site. The severity of crashes is categorized into one of the following six categories:

- 1 - No Injury
- 2 - Possible Injury
- 3 - Non-Incapacitating Injury
- 4 - Incapacitating (Severe) Injury
- 5 - Fatality, and
- 6 - Non-Traffic Fatality

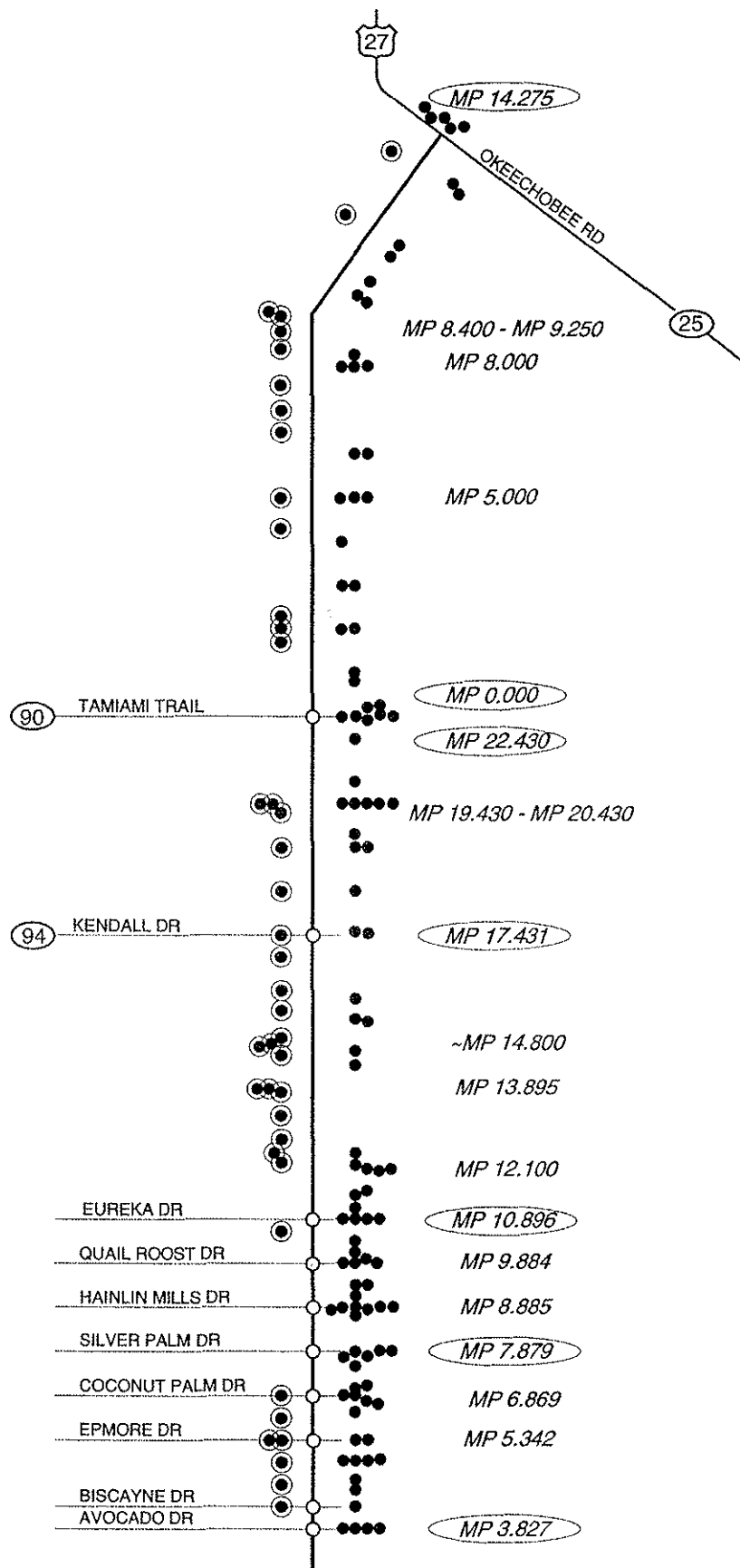
As requested by the Department, crashes in category 4 or 5 were studied in greater detail. Table 5-3 shows a summary of severe injury and fatal crashes by category. Of the 122 crashes summarized for the years 1995 to 1999, 16 of them were fatal crashes. The top five crash types were angle, rear-end, head-on, left turn, and hit tree/shrub.

The percentage of severe injury and fatal crashes of the total crashes was calculated. This percentage helps to identify the most severe crash types. About 44% of all head-on crashes resulted in a severe injury or fatality, followed by hit pole (21%), angle (19%), and overturned vehicle (19%).

All severe injury crashes were plotted by milepost (as shown in Figure 5-3) to identify the high crash locations.

**Table 5-3: Summary of Severe Injury and Fatal Crashes**

	1995	1996	1997	1998	1999	Total	Percentage
<b>Harmful Event</b>							
Angle	7	6	5	5	7	30	24.6%
Rear End	1	4	6	5	7	23	18.9%
Head on	1	2	4	3	5	15	12.3%
Left Turn	2	3	2	1	3	11	9.0%
Tree/Shrub	2	2	1	2	3	10	8.2%
Sideswipe	4	0	1	2	0	7	5.7%
Overturn	0	2	3	1	1	7	5.7%
Ran into ditch/culvert	0	1	1	0	3	5	4.1%
Pole	1	0	0	1	2	4	3.3%
Pedestrian	1	0	0	0	2	3	2.5%
Other	2	2	0	1	2	7	5.7%
<b>TOTAL</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>21</b>	<b>35</b>	<b>122</b>	
<b>Lighting</b>							
Daylight	13	11	17	13	21	75	61.5%
Dark (no street light)	4	8	5	5	9	31	25.4%
Dark (street light)	2	1	1	1	3	8	6.6%
Other	2	2	0	2	2	8	6.6%
<b>TOTAL</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>21</b>	<b>35</b>	<b>122</b>	
<b>Weather</b>							
Dry	14	12	10	12	18	66	54.1%
Cloudy	4	6	11	9	11	41	33.6%
Rain	1	3	2	0	5	11	9.0%
Other	2	1	0	0	1	4	3.3%
<b>TOTAL</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>21</b>	<b>35</b>	<b>122</b>	
<b>Road Surface</b>							
Dry	19	18	20	19	27	103	84.4%
Wet	1	4	3	2	7	17	13.9%
Slippery	0	0	0	0	1	1	0.8%
Other	1	0	0	0	0	1	0.8%
<b>TOTAL</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>21</b>	<b>35</b>	<b>122</b>	
<b>Site Location</b>							
Not at Intersection/RRXing/Bridge	8	10	16	12	23	69	56.6%
At Intersection	12	11	6	8	7	44	36.1%
Driveway Access	1	0	1	1	2	5	4.1%
Influenced by intersection	0	0	0	0	2	2	1.6%
Bridge	0	1	0	0	1	2	1.6%
<b>TOTAL</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>21</b>	<b>35</b>	<b>122</b>	



**FATAL CRASHES (JAN 1995 - JUL 2002)**  
**SEVERE INJURY CRASHES**  
**(JAN 1995 - DEC 1999)**

KROME AVENUE  
 MIAMI-DADE COUNTY, FLORIDA  
 OCTOBER 2002

FIGURE  
 5-3



INJURY CRASHES

**Table 5-4: Nearby Conditions at Fatal Crash Locations**

Section	Milepost	Location	Near by conditions
87150	4.836	Mid-block	Wide shoulders on both sides
87150	5.848	At SW 264th St	Signalized intersection, exclusive left-turn lane
87150	5.848	At SW 264th St	Signalized intersection, exclusive left-turn lane
87150	6.357	At SW 256th St	Unsignalized intersection, Sunoco service station in SW corner
87150	6.869	At SW 248th St	Amoco gas station SW corner, Texaco NE corner, Construction in NW corner, SE corner vacant
87150	10.622	At SW 188th St	Good sight distance
87150	12.200	Mid-block	Hit pole on eastside, north of Chekika recreation area driveway
87150	12.420	Mid-block	Poles on Westside, shoulder on eastside
87150	12.738	Mid-block	Poles on Westside, shoulder on eastside
87150	13.280	Mid-block	~ at SE 154th St, by GUS Nursery; poles on Westside, shoulder on eastside
87150	13.821	Mid-block	Just south of SW 136th St, poles on Westside, shoulder on eastside
87150	13.895	At SW 136th St	Grass shoulder on Westside, poles on eastside north of intersection only.
87150	13.895	At SW 136th St	Grass shoulder on Westside, poles on eastside north of intersection only.
87150	14.668	At SW 122nd St	Good sight distance
87150	14.868	Mid-block	Guardrail on the eastside, 20ft graveled/grass shoulder with poles on the Westside - just north of D'Martinez nursery.
87150	14.940	Mid-block	
87150	15.070	Mid-block	
87150	15.700	Mid-block	Guardrail on eastside, narrow shoulder on Westside
87150	16.156	At SW 100th St	Good side distance, one lane-all movements
87150	16.931	Mid-block	North of railroad crossing, guardrail on both sides
87150	17.431	At SW 88th St	Guardrail on eastside, shoulder on Westside
87150	18.431	Mid-block	Guardrail on eastside
87150	19.431	Mid-block	Guardrail on Westside for culvert, continuous guardrail on eastside
87150	20.230	Mid-block	Wooded area on the Westside, guardrail on the eastside
87150	20.430	Mid-block	Wooded area on the Westside, guardrail on the eastside
87070	1.700	Mid-block	Speed changes from 50 mph to 55 mph
87070	2.020	Mid-block	20 ft slope shoulders
87070	2.350	Mid-block	South of Curve-right sign, 20 ft slope shoulders, NB no passing
87070	4.300	Mid-block	Near guide sign, crash location may be miscoded.
87070	8.400	Mid-block	No passing zone, 20 ft slope shoulders, near driveway
87070	8.800	Mid-block	Driveway south of curve-right sign
87070	9.150	Mid-block	Sharp curve, unmarked
87070	9.250	Mid-block	Missed curve, ran off road to the right.
87070	11.500	Mid-block	Good sight distance, straight road
87070	12.275	Mid-block	Milton Thomas Park eastside - park closes at 5:30, Parking for fishing Westside; good sight distance

## Section 6

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### Potential Crash Counter Measures



## 6. Potential Crash Counter Measures

As shown in the previous section, the entire roadway segments that make up the study corridor and several of the intersections experienced a safety ratio greater than 1.0. Based on the FDOT methodology, a safety ratio greater than 1.0 indicates an abnormal/high crash occurrence. The procedure used to identify potential crash countermeasures is summarized in Figure 6-1. The purpose of the procedure was to:

- Identify system issues: These issues impact the entire corridor and will result in general recommendations. System wide issues include availability of passing, visibility (pavement markings and lighting), the roadside environment, and access management.
- Identify intersection issues: At intersections with a safety ratio greater than 1.0 or where a pattern of crashes was observed, the area was checked for contributing causes.

As shown in Figure 6-1, the general historical crash data from 1995 to 1999 was sorted and classified as an intersection, roadway, roadside, or other crash type. Once classified, potential countermeasures to be considered were identified. A field review was then conducted at the candidate locations to check the applicability of the countermeasure and final recommendations were made. The detailed crash data obtained on fatal crashes from 1995 to June 2002 was reviewed to determine the contributing causes and possible countermeasures. A field check was conducted on all fatal crashes to understand the physical environment in which the crash occurred.

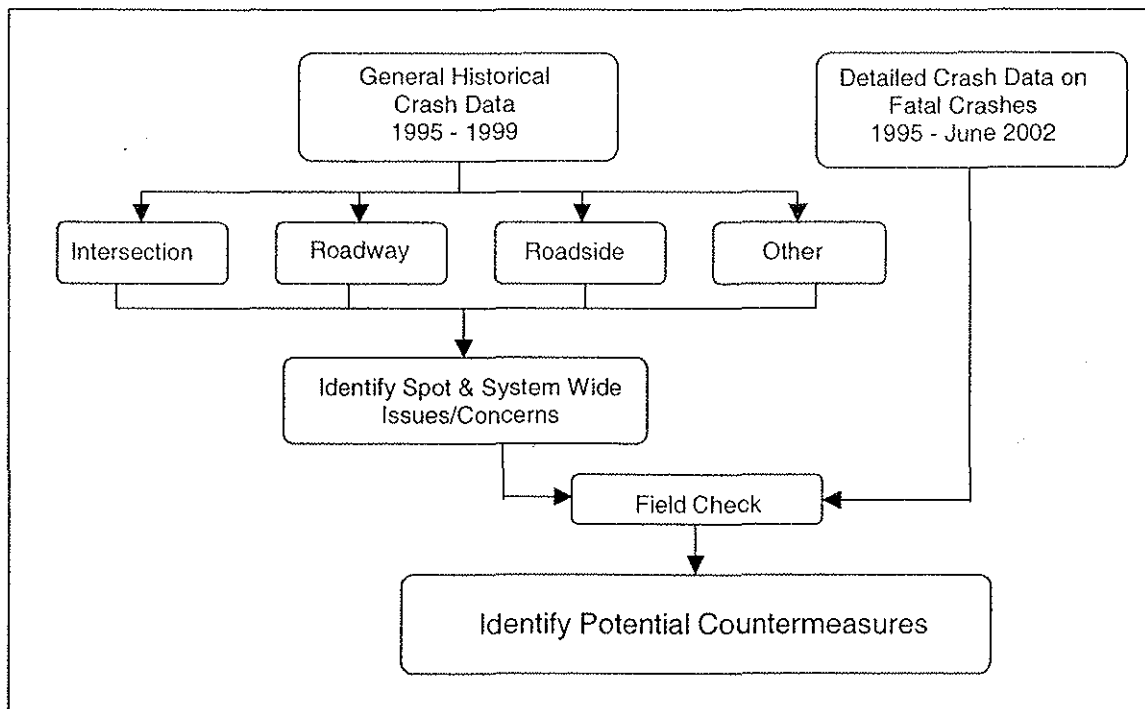


Figure 6-1: Countermeasure Identification Methodology

### SYSTEM ISSUES

Several issues associated with the entire Krome Avenue study corridor were identified during field reviews and the crash analysis. These system issues include the availability of passing, centerline

crossovers, roadside environment, driver guidance and visibility, access management, and bicycle and pedestrian considerations.

### **Availability of Passing**

As shown in the rural two-lane highway analysis and experienced when traveling on the facility, the two-lane cross section in combination with the volume and speed of vehicles on Krome Avenue limits passing opportunities. When the percent time-spent-following (the average percentage of travel time that vehicles must travel behind slower vehicles due to the inability to pass) increases, the comfort level of the following drivers decreases. To perform a passing maneuver, drivers must judge the adequacy of gaps in opposing traffic and use the opposing lane to complete the passing maneuver.

The number of head-on crashes (34 head-on crashes from 1995 to 1999) on the facility and observations made in the field indicate that many drivers, especially after having to follow a vehicle traveling at a speed less than they desire (it is noted that the 'slower moving vehicle' may be traveling at the speed limit), are willing to accept short gaps in the opposing traffic stream to attempt a passing maneuver. Such passing maneuvers may have the following negative impacts:

- Drivers in the opposing lane swerve off of the road to avoid the oncoming vehicle. As Krome Avenue generally has a narrow clear zone and unpaved shoulders, crashes may occur.
- Drivers in the opposing lane suddenly apply their brakes in an attempt to avoid the oncoming vehicle. The sudden application of the brakes may lead to rear-end crashes.
- The driver attempting the passing maneuver realizes the gap is too short and attempts to abort the maneuver. This may result in a sideswipe of the vehicle being passed or a rear-end crash as the passing vehicle attempts to reenter the travel lane.
- A head-on collision occurs.

Because passing maneuvers involve high vehicle speeds, crashes have a higher chance of resulting in severe injuries or fatalities. On Krome Avenue from 1995 to July 2002, nine fatal crashes have occurred due to head-on collisions. As traffic volumes increase on Krome Avenue, the percent time-spent-following will increase and the availability of gaps for passing maneuvers will decrease.

The following countermeasures should be considered to address issues associated with passing maneuvers:

- **Four-Lane Section:** A four-lane section eliminates the need for drivers to judge the adequacy of gaps in opposing traffic and use the opposing lane to perform the passing maneuver. The length and placement of a four-lane section can vary (for example, a four-lane section can be located between intersections or on a specific stretch of roadway). It is noted that in areas where access to roadside properties exists or is planned, a four-lane section should be median separated and that left-turn lanes need to be provided to minimize crossover crashes and rear-end crashes. A properly designed four-lane section can be expected to nearly eliminate head-on crashes (a crash type that often results in severe injuries or fatalities) and reduce the total number of roadway crashes associated with passing maneuvers. Vehicle speeds on four-lane sections can also be expected to be higher than on a two-lane section.



- **Passing Lanes:** Passing lanes can improve the operation of a two-lane highway by reducing delays caused by inadequate passing opportunities over significant lengths of roadway. AASHTO recommends a minimum length of 1,000 feet, excluding tapers, for passing lanes to assure that delayed vehicles have an opportunity to complete at least one pass in the added lane. The signing, marking, and visibility of added passing lanes is important in realizing the benefit of such lanes and minimizing issues associated with the diverge and merge points of the lanes. Access to roadside property should be restricted in areas with passing lanes. Passing lanes can be expected to reduce head-on crashes, but not to the extent of a four-lane section.
- **Median Separated Two-Lane Section:** A median separated two-lane section eliminates the possibility of passing maneuvers (and associated crashes) by restricting access to the opposing lane of traffic. This configuration limits the speed of vehicles on the roadway to that of the slowest moving vehicle leading the platoon (essentially, percent time-spent-following is 100%). A median separated two-lane section will reduce head-on crashes, but will not improve operation of the roadway. Over a long section of a median separated two-lane facility, the lack of passing may result in undesirable driver behavior such as tailgating, aggressive gestures, and passing on the right if a paved shoulder is present.

When considering potential countermeasures, it is important to note that one treatment does not have to be applied to the entire corridor. An alternatives analysis that considers issues such as available right-of-way, environmental impacts, safety benefits, operational benefits, and community concerns should be completed in order to decide what the preferred treatments should be.

### **Centerline Crossovers**

Fifteen of the 42 fatal crashes were reported as crossover crashes where a vehicle traveling in one direction crossed over the roadway centerline and struck a vehicle traveling in the opposite direction. Crossover crashes differ from head-on crashes in that the point of impact is usually at an angle. In reviewing the contributing causes of the crossover crashes, 20% occurred as a result of improper passing, 53% were not stated, and 27% was a combination of other causes. Because centerline crossover crashes usually involve high vehicle speeds between vehicles traveling in opposite directions, crashes have a higher chance of resulting in severe injuries or fatalities.

To reduce the chance of centerline crossover crash occurrence (a crash type that often results in severe injuries or fatalities), the roadway should be separated by a physical median. The FDOT and AASHTO provide guidance on the specifications for different median treatments.

The following countermeasures should be considered to address issues associated with centerline crossovers:

- **Four-Lane Section with Raised or Restrictive Median:** A four-lane section with a raised or restrictive median significantly reduces the chance of centerline crossover crash occurrence while allowing passing maneuvers to occur. This median design will limit the amount of right-of-way needed as opposed to the use of a grass median.
- **Median Separated Two-Lane Section:** A median separated two-lane section reduces the chance of centerline crossover crash occurrence and also eliminates the chance of passing maneuvers. As discussed in the section about passing opportunities, over a long section of a

median separated two-lane facility, the lack of passing may result in undesirable actions by drivers.

- **Raised Pavement Markings:** Crossover crashes may occur due to a lack of driver guidance or issues associated with visibility. The section describing driver guidance and visibility provides details on available treatments.

### **Roadside Environment**

Roadside clear zones (areas from the edge of travel way that are free of obstructions) provide a more “forgiving” environment for vehicles that stray from the roadway. The condition of the roadside has the most impact on run-off the road crashes. The FDOT provides the following guidance, in order of priority, regarding objects within the clear zone (PPM, pg. 4-1):

- Eliminate the hazard (remove the hazard, relocate the hazard outside the clear zone, or make the hazard traversable or crashworthy).
- Shield the hazard with a longitudinal barrier or crash cushion. This treatment should only be taken if the barrier or crash cushion presents a lesser hazard.
- Leave the hazard unshielded. This treatment should be taken only if a barrier or crash cushion is more hazardous than the hazard, if the likelihood of striking the hazard is very small, or if the expense of treatment outweighs the benefits in terms of accident reduction.

For this analysis, the type and condition of the shoulder was included as a roadside issue. Roadway shoulders are typically designed to accommodate occasional use by vehicles. On two-lane roadways, trailing vehicles commonly use shoulders to “go-around” turning vehicles so that a complete stop is not necessary.

It is noted that of the 966 crashes that were reviewed from 1995 to 1999, 183 (approximately 19%) were classified as roadside crashes. It is also noted that of the 42 fatal crashes reviewed from 1995 to July 2002, two were classified as veered off the road crashes.

The following countermeasures should be considered to improve the condition of the roadside environment:

- **Provision of the widest feasible clear zone:** In the *Krome Avenue Action Plan*, the desirable clear zone was identified as 18 feet from Avocado Drive to Kendall Drive and as 30 feet from Kendall Drive to Okeechobee Road. The greater the amount of clear zone recovery distance provided, the greater amount of reduction in roadside crashes that can be expected. Issues associated with specific objects in the clear zone will be identified in the section that details spot locations.
- **Widen shoulders to the extent feasible to meet FDOT standards.** In the *Krome Avenue Action Plan*, the recommendations were to widen the paved shoulders to 10 feet approaching intersections and railroads from Avocado Drive to Kendall Drive and to provide 5-foot paved and 5-foot turfed shoulders from Kendall Drive to Okeechobee Road. A lower cost option for this alternative is to fix the existing shoulders (repave or regrade) on Krome Avenue.
- **Provide a Smooth Transition to the Clear Zone.** On many sections of Krome Avenue, an edgeline drop-off of up to four inches exists between the paved portion of the roadway and the unpaved (either gravel or grass) portion of the clear zone. The existence of edgeline

drop-offs in the vicinity of intersections provides a hazard to drivers trying to “go around” turning vehicles and also to vehicles who may inadvertently leave the travel way. A minimum two-foot paved shoulder would help reduce pavement edge discontinuities due to traffic.

#### **Driver Guidance and Visibility**

In reviewing the crash data for fatal crashes, it was found that 35% of fatal crashes occurred during daylight hours and 65% occurred during non-daylight hours (dusk, night, dawn). For all crashes that occurred from 1995 through 1999, 68% occurred during daylight hours and 32% occurred during non-daylight hours.

The following countermeasures should be considered to address issues associated with driver guidance and visibility:

- A roadway lighting system will result in the greatest improvement in nighttime visibility. Roadway lighting appears to have a greater benefit at intersections as compared to on long tangent sections. If pedestrian or bicycle use exists or is planned on the facility, roadway lighting will significantly improve the safety of the facility.
- Raised pavement markers (RPMs) provide benefits in terms of increased delineation of the driving path of the roadway, increased ability to “track” the roadway, increased reflectivity under wet-weather conditions, and increased tactile and auditory warning to drivers when crossing the markers (6). Data from the section of US 1 from Key Largo in the Florida Keys to Florida City (commonly referred to as ‘the 18-mile stretch’) should be reviewed to determine if a crash reduction has been realized since the installation of raised pavement markers on that two-lane facility. As is the case with US 1 between Key Largo and Florida City, raised pavement markers should be installed on both the centerline and edge lines of the Krome Avenue. Raised pavement markers can also be used on the approaches of the cross streets intersecting with Krome Avenue to alert drivers of an upcoming situation.
- Use of reflective tape on signposts will alert drivers of important signs during non-daylight hours. Signs for consideration include stop signs and signs informing drivers of upcoming intersections.
- Improved pavement markings on Krome Avenue will provide positive guidance to drivers and likely produce a reduction in the number of accidents at intersections and access points (driveways). Although pavement markings exist on Krome Avenue, many have faded and are difficult to see. When implemented with RPMs and shoulder improvements, edgeline pavement markings can provide an inexpensive treatment for runoff the road and intersection related crashes. As with RPMs above, improved pavement markings on the approaches of the cross streets intersecting with Krome Avenue can alert drivers of the upcoming intersection.

#### **Access Management**

A review of the various access regulations and guidelines in the area was completed as part of the *Krome Avenue Action Plan* (7). With regards to access management, the following recommendation was made for the Krome Avenue corridor from Avocado Drive to the Tamiami Trail (7):

- Access management implementation to limit the number of driveways, farm access, cross-street connections and improve intersections.

As discussed in the previous sections about passing opportunities and centerline crossovers, the use of medians in the corridor has been identified as a potential treatment. Other features of an access management plan such as driveway controls and turning restrictions can be expected to improve traffic operations, minimize adverse environmental impacts, and increase roadway safety (8).

Krome Avenue is also part of the Florida Intrastate Highway System (FIHS). To meet the criteria of a FIHS facility, Krome Avenue should be brought up to controlled access facility standards. As stated in the FDOT reference *Development of the Florida Intrastate Highway System* (Topic No.: 525-030-250-d), "The access management standards for controlled access segments of the FIHS shall be those contained in Access Class 2 or 3 as defined in Department Rule Chapter 14-97 F.A.C. and the Department's Plans Preparation Manual". The *Development of the Florida Intrastate Highway System* also states, "Other access management standards may be assigned to a segment of the FIHS through a corridor access management plan developed as part of the Action Plan for the segment. The plan should define the highest standards attainable where Class 2 or 3 would not be feasible." Table 6-1 summarizes the controlled access facility standards.

**Table 6-1: Controlled Access Facility Standards for Class 2 and Class 3**

Access Class	Facility Design Features	Minimum Connection Spacing (feet)	Minimum Median Opening Spacing (feet)	Minimum Median Opening Spacing (feet)	Minimum Signal Spacing (mile)
	(Median Treatment and Access Roads)		Directional	Full	
2	Restrictive with Service Roads	1320/660	1320	0.5	0.5
3	Restrictive	660/440	1320	0.5	0.5

(Greater than 45 mph/Less than or = 45 mph)

### **Bicycle and Pedestrian Environment**

The existing condition of the Krome Avenue corridor is not conducive to use by bicyclists and pedestrians. For most of the corridor, the shoulder is either not paved, in poor condition, or too narrow for a bicycle to safely use. Most intersections do not have pedestrian crossing features (crosswalks, pedestrian signals, pedestrian push-buttons).

The potential inclusion of bicycle and pedestrian trails in the Krome Avenue corridor needs to be considered as alternatives are developed and evaluated. As identified in the *Krome Avenue Action Plan*, coordination with the South Dade Greenway Network and the North Dade Greenway Network is necessary throughout the alternatives study process.

### **System Countermeasures Recommendations**

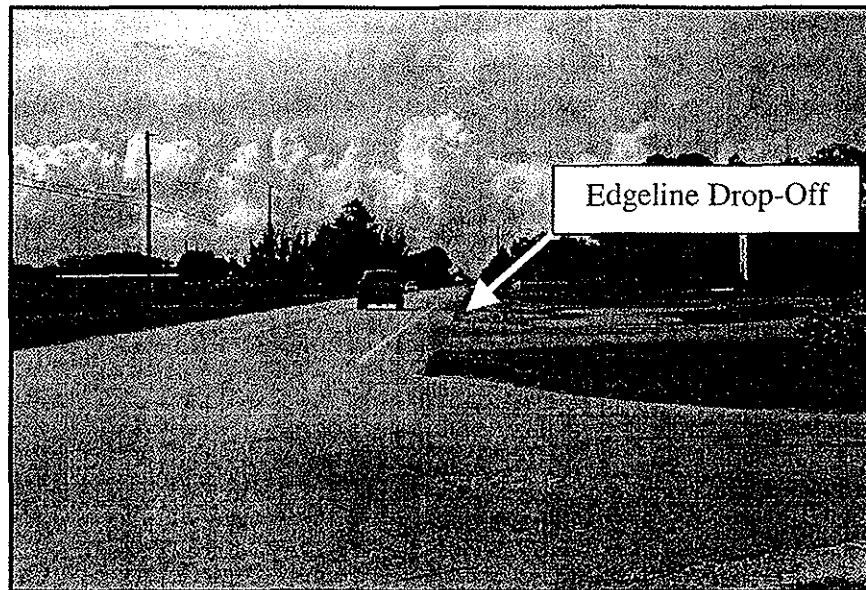
The following is a summary of the potential countermeasures for system issues. As the need for these treatments occurs throughout the length of Krome Avenue (to varying degrees), the treatments should be considered for application on the entire corridor.

### *Short-Term*

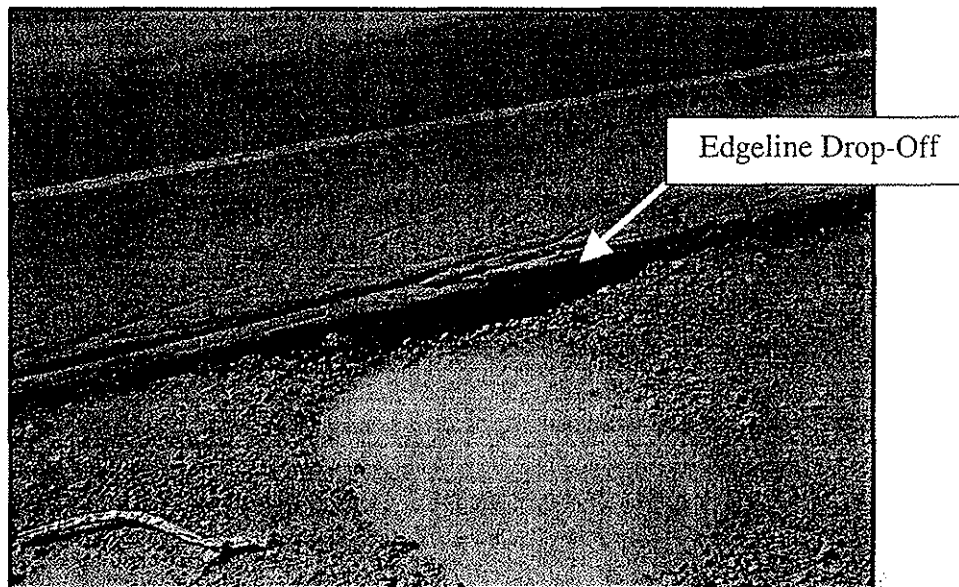
- Raised pavement markers (RPMs), improved pavement markings, and use of reflective tape on signposts. This treatment will have the lowest cost and can likely be implemented in the shortest period of time.
- Provide a smooth transition to the clear zone. This consists of leveling edge drop-offs between the paved portion of the roadway and the unpaved (either gravel or grass) portion of the clear zone. Figure 6-2, Figure 6-3, and Figure 6-4 show examples of edge drop-offs on Krome Avenue. FDOT Standard Index 105 (shown in Figure 6-5) provides guidance on treatments used to provide a smooth transition to the clear zone. These treatments can be part of a roadway maintenance program.
- Improve the condition of existing shoulders. As recommended in the *Krome Avenue Action Plan*, widen the paved shoulders to 10 feet approaching intersections and railroads from Avocado Drive to Kendall Drive and provide 5-foot paved and 5-foot turfed shoulders from Kendall Drive to Okeechobee Road. A lower cost option for this alternative is to fix the existing shoulders (repave or regrade) on Krome Avenue.

### *Long-Term*

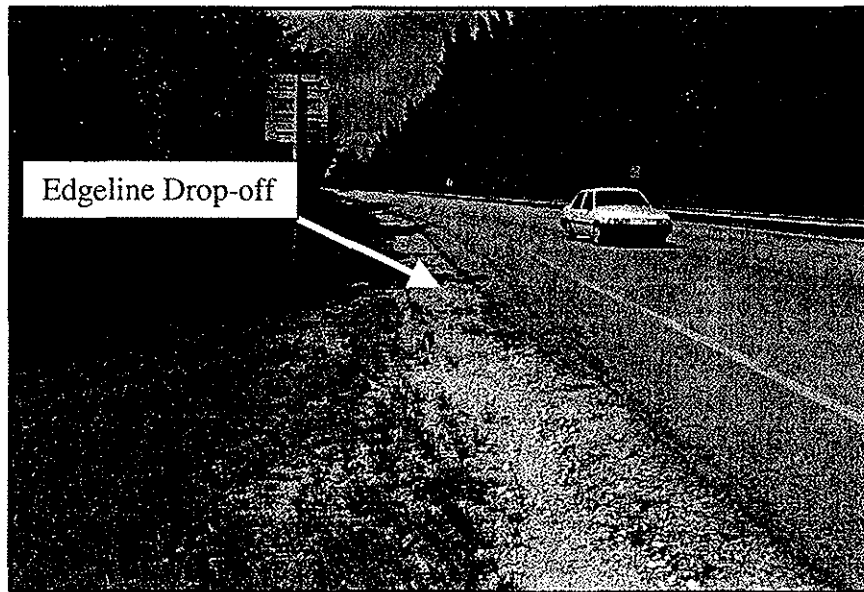
- Evaluate the feasibility of changing the existing two-lane undivided Krome Avenue corridor to include:
  - Four-lane median separated sections;
  - Passing lanes; and/or
  - A median Separated Two-Lane Section.
- Provision of the widest feasible clear zone and improved shoulder design.
- Upgrade Krome Avenue to controlled access facility standards (previously defined).
- Provision of a roadway lighting system in the corridor.



**Figure 6-2: Edgeline Drop-Off Example: Krome Avenue South of Epmore Intersection**



**Figure 6-3: Edgeline Drop-Off Example: Krome Avenue in the vicinity of Howard Road**



**Figure 6-4: Edgeline Drop-Off Example: Krome Avenue North of Kendall Drive Intersection**

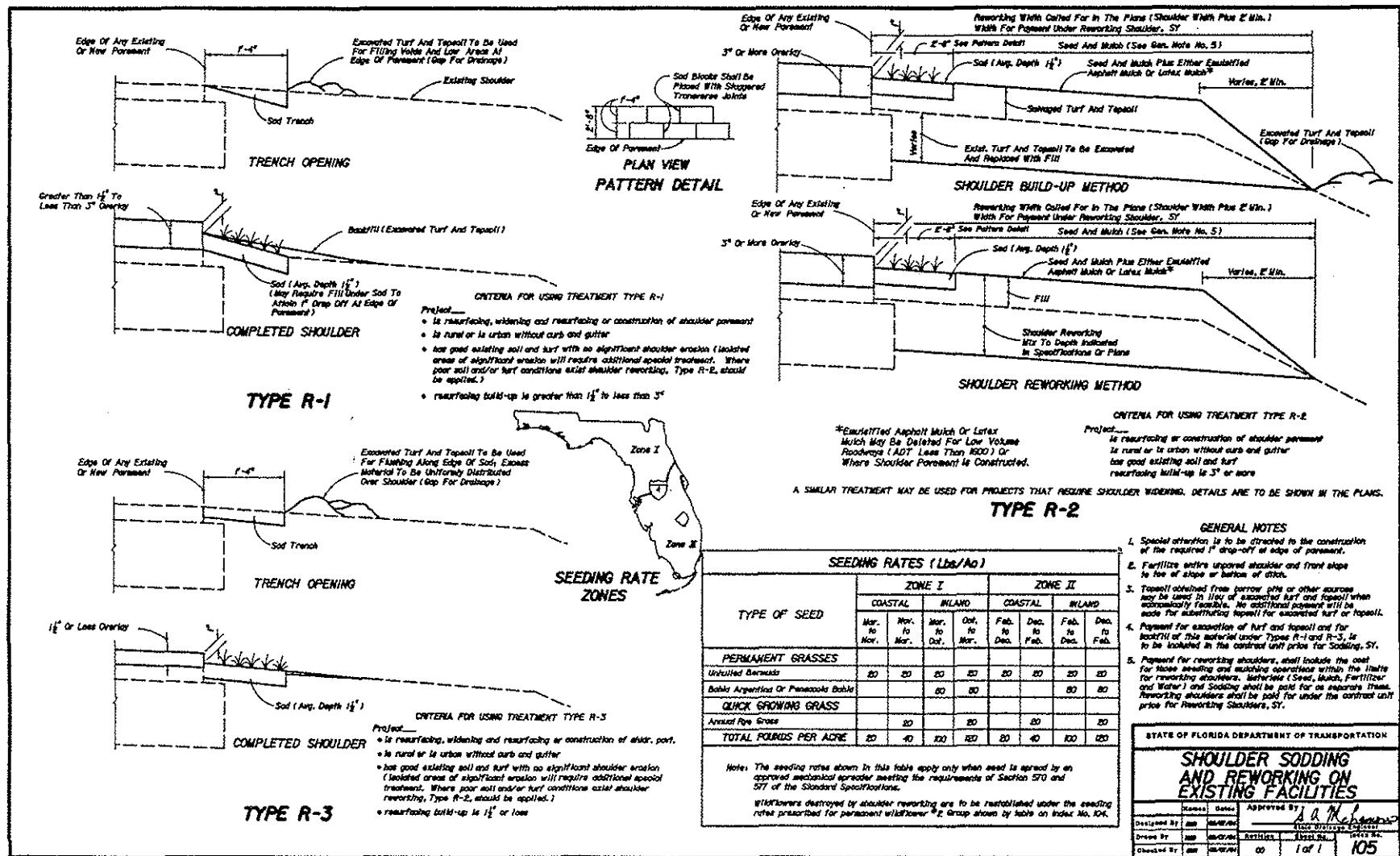


Figure 6-5: FDOT S.I. 105: Shoulder Sodding and Reworking on Existing Facilities



## INTERSECTION ISSUES

A field review was conducted during daylight hours to assess traffic operations at 14 intersections on Krome Avenue corridor. The field study included a physical inspection of each intersection. The physical examination of the intersection consisted of an inventory of the following:

- Location
- Intersection geometry
- Traffic control devices and signal visibility
- Signage
- Sight distance
- Pavement Conditions and Markings
- Shoulder and clear zone characteristics
- Drainage
- Roadway lighting and utility services
- Pedestrian facilities
- General observations

The review did not include an investigation of the Grossman Farm Road (SW 192<sup>nd</sup> St) intersection, as there were no serious or fatal crash incidents documented for that immediate area. The review did include the intersection at Plummer Drive (SW 256<sup>th</sup> St).

### **Avocado Drive (SW 296<sup>TH</sup> St) and Krome Avenue (SR 997) MP 3.827**

#### *Location*

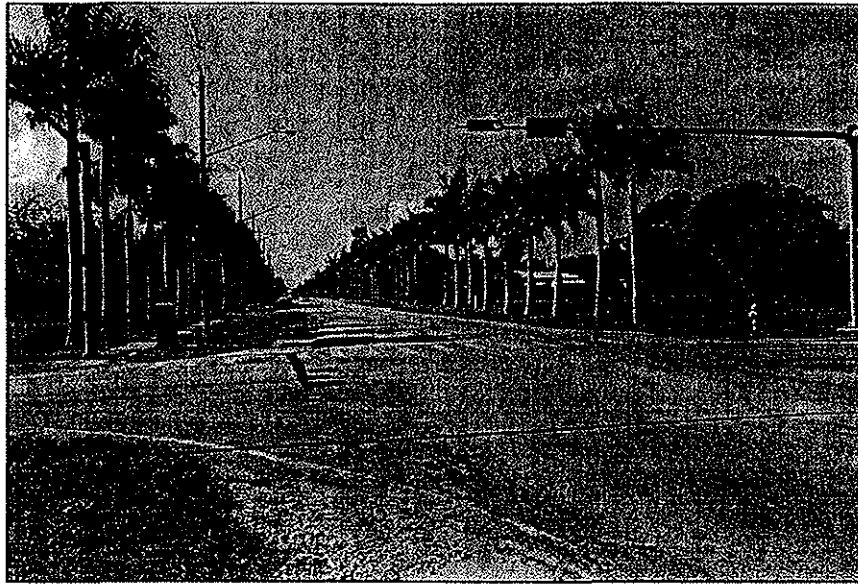
The intersection of Avocado Drive and Krome Avenue is situated on the edge of a residential area. The quadrants to the north of the intersection consist either of vacant farm fields or foliage of varying densities. Residences are located on the southeast and southwest quadrants of the intersection and both have driveways leading onto Avocado Drive. Figure 6-6 shows the south approach of the intersection.

#### *Intersection Geometry*

Each of the four approaches to the Avocado Drive and Krome Avenue intersection consists of only one lane in each direction. The vertical and horizontal alignment of the intersection is level and straight.

#### *Traffic Control Devices and Signal Visibility*

Avocado Drive and Krome Avenue is a signalized intersection at the very southern end of the study corridor. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.



**Figure 6-6: South Approach, Avocado Drive and Krome Avenue**

### *Signage*

Street signage includes the presence of advanced warning signs prior to entering the intersection on the north, south and west approaches. The east approach has no advanced warning signs. Other street signage includes posted speed signs, state road signs and directional signage to specific landmarks.

### *Sight Distance*

Sight distance for turning movements is limited for most of the approaches to the intersection with the exception of the northeast quadrant containing the open field. Obstructions to sight distance include the presence of trees, moderate foliage, lighting and utility structures.

### *Pavement Condition and Markings*

Evidence of moderate pavement cracking and fracture was noted on the roadway. Large potholes were present on the east approach and a majority of the turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the east side of the south approach is approximately three feet in width and is uneven and irregular in appearance. The clear zone comprises of approximately fifteen feet of grassed area leading up to a line of lighting structures. The southbound side of the south approach is similar with approximately ten feet of grassed area leading up to a row of trees. The east and west approaches have no notable roadway shoulder but have approximately ten feet of grassed area leading to lighting structures or foliage boundaries.

### *Drainage*

The Avocado Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii.

### *Roadway Lighting and Utility Services*

Roadway lighting is present on the northbound side of Krome Ave and on the eastbound side of Avocado Drive.

### *Pedestrian Facilities*

There is the presence of pedestrian footpaths on both sides of the south approach and also on both the south side of the east and west approaches. A pedestrian crosswalk is present on the south approach in the form of a painted zebra crossing.

### *General Observations*

The intersection of Avocado Drive and Krome Avenue is noted as having had several serious crash incidents over the study period primarily due to rear ending, left turn and angle collisions.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

The FDOT has programmed turn lane additions, improved return radii, and improved lighting, signing, and pavement markings at this intersection. Specifically, left-turn lanes will be added to the north and south approaches of Krome Avenue. Signal timing improvements were recommended at this intersection based on the results of the capacity analysis.

### *Recommendations*

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Cut back foliage boundary
- Install back plates on traffic signals to improve visibility

#### *Long Term Options*

- Increase lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections

### **Biscayne Drive (SW 288<sup>TH</sup> St) and Krome Avenue (SR 997) MP 4.333**

#### *Location*

The intersection of Biscayne Drive and Krome Avenue is located within a rural developed area. There are no major developments at this intersection and all four quadrants of the intersection are comprised of fields. Figure 6-7 shows the south approach to the intersection.

#### *Intersection Geometry*

Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. Biscayne Drive consists of one lane in each direction on the

eastbound and westbound approaches. The vertical and horizontal alignment of the intersection is level and straight.

#### *Traffic Control Devices and Signal Visibility*

Biscayne Drive and Krome Avenue is a signalized intersection. Protected-permitted left turn phasing is used on Krome Avenue. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.



**Figure 6-7: South Approach, Biscayne Drive and Krome Avenue**

#### *Signage*

Street signage includes the presence of advanced warning signs approximately ninety feet prior to entering the intersection on the north and south approaches. The east and west approaches have no advanced warning signs. Other street signage includes posted speed signs and state road signs.

#### *Sight Distance*

Sight distance for turning movements is adequate on all of the approaches to the intersection due to the open fields present in each quadrant.

#### *Pavement Conditions and Markings*

Evidence of pavement cracking and fracture was noted on the roadway. A majority of the turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent. Several skid marks were also noted.

#### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and have evidence of skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of lighting structures or a developed field. The east and west approaches have no notable roadway shoulder and have clear zones similar to the north and south approaches.

### *Drainage*

The Biscayne Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii.

### *Roadway Lighting and Utility Services*

Roadway lighting is present on the northbound side of Krome Ave and on the eastbound side of Biscayne Drive.

### *Pedestrian Facilities*

There is the presence of pedestrian footpaths on the south side of the east approach.

### *General Observations*

This intersection was noted as having one fatal incident over the designated study period, and is a prevalent location for northbound and southbound rear end crashes due to careless driving, angle crashes from disregarding signals and improper left turns.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

The addition of a westbound right-turn lane was recommended at this intersection based on the results of the capacity analysis.

### *Recommendations*

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility

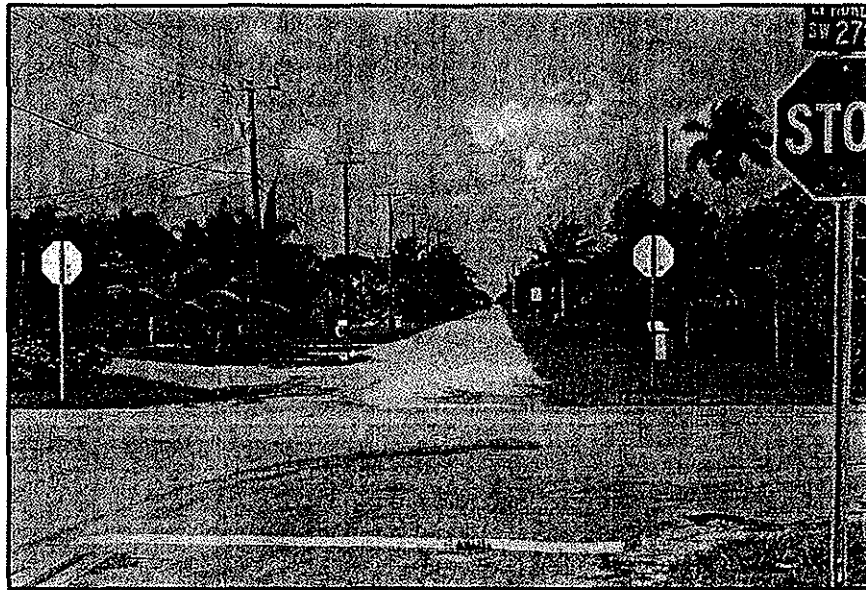
#### *Long Term Options*

- Increase lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Improve intersection warning and visibility through advanced warning signs and flashing lights where necessary
- Provide improved drainage at intersections

### **Epmore Drive (SW 272nd St) and Krome Avenue (SR 997) MP 5.342**

#### *Location*

The intersection of Epmore Drive and Krome Avenue is located within a developed area. The quadrants to the north of the intersection consist either of farm fields or residences. A gas station is located on the southwest quadrant of the intersection and has driveways leading onto both Epmore Drive and Krome Avenue. Figure 6-8 shows the west approach of the intersection.



**Figure 6-8: West Approach, Epmore Drive and Krome Avenue**

#### *Intersection Geometry*

Each of the four approaches to the Epmore Drive and Krome Avenue intersection consists of one lane in each direction. The vertical and horizontal alignment of the intersection is level and straight.

#### *Traffic Control Devices*

Epmore Drive and Krome Avenue is an unsignalized intersection. Two stop signs are present on both the east and west approaches of the intersection. Signage visibility appears adequate in daylight conditions.

#### *Signage*

Street signage includes the presence of advanced warning signs prior to entering the intersection on the east and west approaches. Other street signage includes posted speed signs and state road signs.

#### *Sight Distance*

Sight distance for turning movements is poor for most of the approaches to the intersection due to the presence of trees, moderate foliage, lighting and utility structures.

#### *Pavement Conditions and Markings*

Evidence of moderate pavement cracking and fracture was noted on the roadway. Potholes were present at the center of the intersection and a majority of the turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent. Several skid marks were also noted.

#### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and have evidence of skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of lighting structures or development. An abrupt edge drop off from the

pavement shoulder to the grass area was present on the west side of the south approach. The east and west approaches have no paved roadway shoulder but have approximately five to six feet of grassed area leading to lighting structures or foliage boundaries.

#### *Drainage*

The Epmore Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii and worn shoulders of approaches.

#### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

#### *Pedestrian Facilities*

There is no presence of pedestrian facilities on any of the four approaches.

#### *General Observations*

This intersection was noted as having one fatal crash and several serious accidents due to failure to yield to stop signs. Driveway locations did not appear to cause any erratic driving behavior.

#### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

The FDOT has programmed turn lane additions, improved return radii, and improved lighting, signing, and pavement markings at this intersection. Specifically, left-turn lanes will be added to the north and south approaches of Krome Avenue. Signalization was recommended at this intersection based on the results of the capacity analysis.

#### *Recommendations*

##### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Cut back foliage boundary

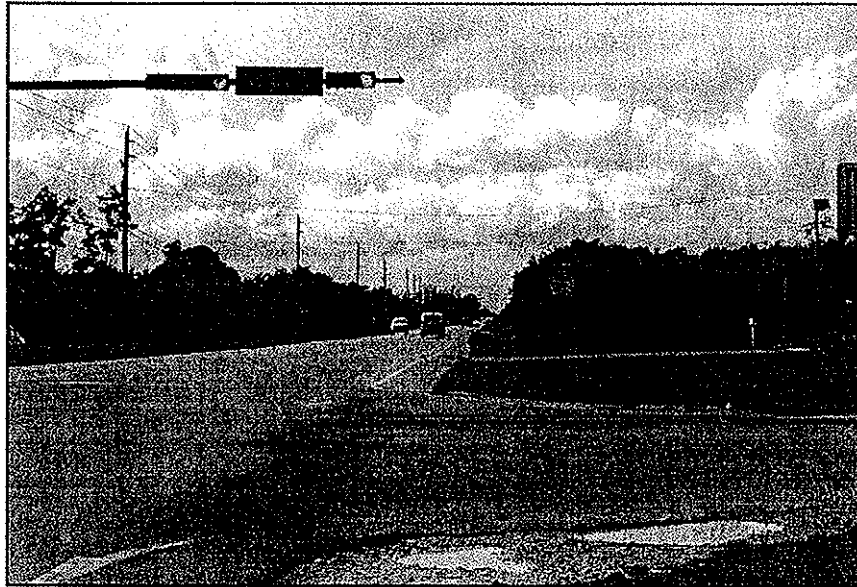
##### *Long Term Options*

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Improve intersection warning and visibility through advanced warning signs and flashing lights where necessary
- Provide improved drainage at intersections

### **Bauer Drive (SW 264<sup>TH</sup> St) and Krome Avenue (SR 997) MP 5.848**

#### *Location*

The intersection of Bauer Drive and Krome Avenue is located within a rural developed area. The quadrants to the north of the intersection consist either of nursery fields or high-density foliage areas. A gas station is located on the southwest quadrant of the intersection and has driveways leading onto both Bauer Drive and Krome Avenue. The quadrant to the southeast also comprises of high-density foliage. Figure 6-9 shows the south approach of the intersection



**Figure 6-9: South Approach, Bauer Drive and Krome Avenue**

#### *Intersection Geometry*

Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. Bauer Drive consists of one lane in each direction on the eastbound and westbound approaches. The vertical and horizontal alignment of the intersection is level and straight.

#### *Traffic Control Devices and Signal Visibility*

Bauer Drive and Krome Avenue is a signalized intersection. Protected-permitted left turn phasing is used on Krome Avenue. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.

#### *Signage*

Street signage includes the presence of advanced warning signs approximately ninety feet prior to entering the intersection on the north and south approaches. The east and west approaches have no advanced warning signals. Other street signage includes posted speed signs and state road signs.



### *Sight Distance*

Sight distance for turning movements at the intersection is poor for all of the approaches to the intersection due to the presence of high-density foliage, trees and utility structures.

### *Pavement Conditions and Markings*

Large evidence of pavement cracking and fracture was noted on the roadway. A majority of the turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and show evidence of skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of utility structures, fences or foliage. The east and west approaches have small and uneven roadway shoulders and have limited clear zones leading to dense foliage.

### *Drainage*

The Bauer Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii.

### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches. Utility lines are present running northbound on Krome Avenue.

### *Pedestrian Facilities*

There is no presence of pedestrian facilities on any of the four approaches.

### *General Observations*

This intersection has a history of having had two fatal incidents, some serious crashes and is a prevalent location for northbound and southbound rear end crashes from careless driving, angle crashes from disregarding signals and improper left turns.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection and no improvements were recommended based on the capacity analysis.

## ***Recommendations***

### *Short Term Options*

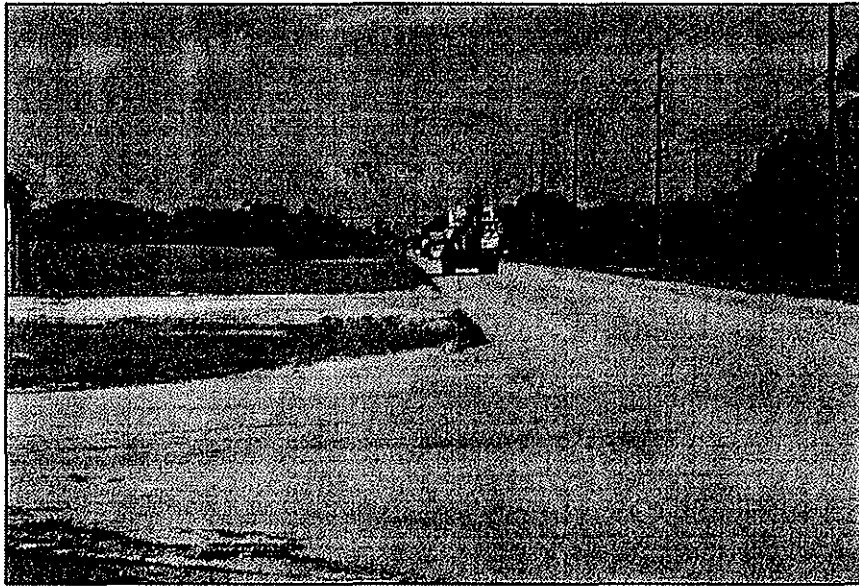
- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility
- Cut back foliage boundary

*Long Term Options*

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections

**Plummer Drive (SW 256<sup>TH</sup> St) and Krome Avenue (SR 997) MP 6.357***Location*

The intersection of Plummer Drive and Krome Avenue is located within a developed area. A local business is situated in the northwest quadrant of the intersection and the remaining quadrants consist either of either plant nurseries or moderate density foliage areas. Figure 6-10 shows the north approach of the intersection.



**Figure 6-10: North Approach, Plummer Drive and Krome Avenue**

*Intersection Geometry*

Each of the four approaches to the Plummer Drive and Krome Avenue intersection consists of one lane in each direction. The vertical and horizontal alignment of the intersection is level and straight.

*Traffic Control Devices and Signal Visibility*

Plummer Drive and Krome Avenue is an unsignalized intersection. A stop sign is present on both the east and west approaches of the intersection.

*Signage*

Street signage includes the presence of advanced warning signs prior to entering the intersection on the east and west approaches.

### *Sight Distance*

Sight distance for turning movements is poor for most of the approaches to the intersection due to the presence of trees, moderate foliage and utility structures.

### *Pavement Conditions and Markings*

Evidence of pavement cracking and fracture was noted on the roadway. Westbound turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and have evidence of skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of utility structures or development. The east and west approaches have no notable roadway shoulder and have a few feet of grassed area leading to utility structures or foliage/tree boundaries.

### *Drainage*

The Plummer Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii and worn areas within the intersection.

### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

### *Pedestrian Facilities*

There is no presence of pedestrian facilities on any of the four approaches.

### *General Observations*

This intersection was noted as having one fatal incident and several serious accidents due to rear-ending in the north and southbound directions.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection and this intersection was not included in the capacity analysis.

### *Recommendations*

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Cut back foliage boundary

#### *Long Term Options*

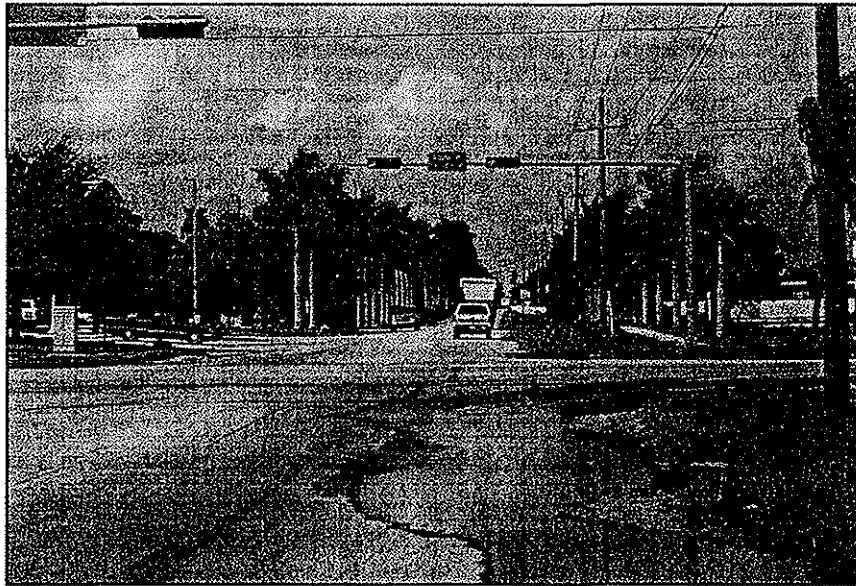
- Provide lighting at the intersection

- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Improve intersection warning and visibility through advanced warning signs and flashing lights above stop signs where necessary
- Provide improved drainage at intersections

**Coconut Palm Drive (SW 248<sup>TH</sup> St) and Krome Avenue (SR 997) MP 6.859**

*Location*

The intersection of Coconut Palm Drive and Krome Avenue is located within a developed area. Three of the four quadrants have gas stations located on them with each gas station having driveways leading onto both Coconut Palm Drive and Krome Avenue. The quadrant to the southeast also comprises of vacant field. Figure 6-11 shows the west approach to the intersection.



**Figure 6-11: West Approach, Coconut Palm Drive and Krome Avenue**

*Intersection Geometry*

Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. Coconut Palm Drive consists of one lane in each direction on the eastbound and westbound approaches. The vertical and horizontal alignment of the intersection is level and straight.

*Traffic Control Devices and Signal Visibility*

Coconut Palm Drive and Krome Avenue is a signalized intersection. Protected-permitted left turn phasing is used on Krome Avenue. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.

### *Signage*

Street signage includes the presence of advanced warning signs entering the intersection on all four approaches. Other street signage includes posted speed signs and state road signs.

### *Sight Distance*

Sight distance for turning movements is poor for all of the approaches to the intersection due to the presence of high-density foliage, trees and utility structures.

### *Pavement Conditions and Markings*

Poor pavement structure was noted on the roadway. A majority of the turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and are in poor condition. The clear zones comprise of several feet of grassed area leading up to either a line of utility structures, fences or foliage. The east and west approaches have small and uneven roadway shoulders and have limited clear zones leading to tree or utility lines.

### *Drainage*

The Biscayne Drive and Krome Ave intersection shows signs of extremely poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii and approaches.

### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

### *Pedestrian Facilities*

There is no presence of pedestrian facilities on any of the four approaches.

### *General Observations*

This intersection was noted as having a safety ratio greater than one and is a prevalent location for northbound rear end crashes from careless driving, angle crashes from disregarding signals and improper left turns.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection and no improvements were recommended based on the capacity analysis.

### *Recommendations*

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections

- Install back plates on traffic signals to improve visibility
- Cut back foliage boundary

*Long Term Options*

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections

**Silver Palm Drive (SW 232nd St) and Krome Avenue (SR 997) MP 7.879**

*Location*

The intersection of Silver Palm Drive and Krome Avenue is located within a developed area. The quadrants to the north of the intersection consist either of development or high density foliage areas. A gas station is located on the southwest quadrant of the intersection and has driveways leading onto both Silver Palm Drive and Krome Avenue. The quadrant to the southeast also comprises of a vacant field. Figure 6-12 shows the west approach of the intersection.



**Figure 6-12: View from West Approach towards East, Silver Palm Drive and Krome Avenue**

*Intersection Geometry*

Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. Bauer Drive consists of one lane in each direction on the eastbound and westbound approaches. The vertical and horizontal alignment of the intersection is level and straight.

### *Traffic Control Devices and Signal Visibility*

Silver Palm Drive and Krome Avenue is a signalized intersection. Protected-permitted left turn phasing is used on Krome Avenue. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.

### *Signage*

Street signage includes the presence of advanced warning signs approximately ninety feet prior to entering the intersection on the north and south approaches. The east and west approaches have no advanced warning signs. Other street signage includes posted speed signs, state road signs and approaching railway crossing signs.

### *Sight Distance*

Sight distance for turning movements is poor for all of the approaches to the intersection due to the presence of high-density foliage, trees, fencing and utility structures.

### *Pavement Conditions and Markings*

Large evidence of pavement cracking and unevenness was noted on the roadway. A majority of the turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and show evidence of skid marks and deterioration. The clear zones comprise of several feet of grassed area leading up to either a line of utility structures, fences or foliage. The east and west approaches have no notable roadway shoulder but have approximately five to six feet of grassed area leading to lighting structures or foliage boundaries.

### *Drainage*

The Biscayne Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii.

### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

### *Pedestrian Facilities*

There is the presence of a limited pedestrian footpath on the southwest quadrant of the intersection.

### *General Observations*

This intersection is noted as having had a number of serious crashes occurring within its immediate vicinity due to rear ending and angle collisions. There is also a railway crossing located just north of the intersection, which is noted as having had several similar incidents. Driveway structures did not appear to cause any erratic driving behavior.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection and no improvements were recommended based on the capacity analysis.

### ***Recommendations***

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility
- Cut back foliage boundary

#### *Long Term Options*

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections

### **Hainlin Mill Drive (SW 216<sup>TH</sup> St) and Krome Avenue (SR 997) MP 8.885**

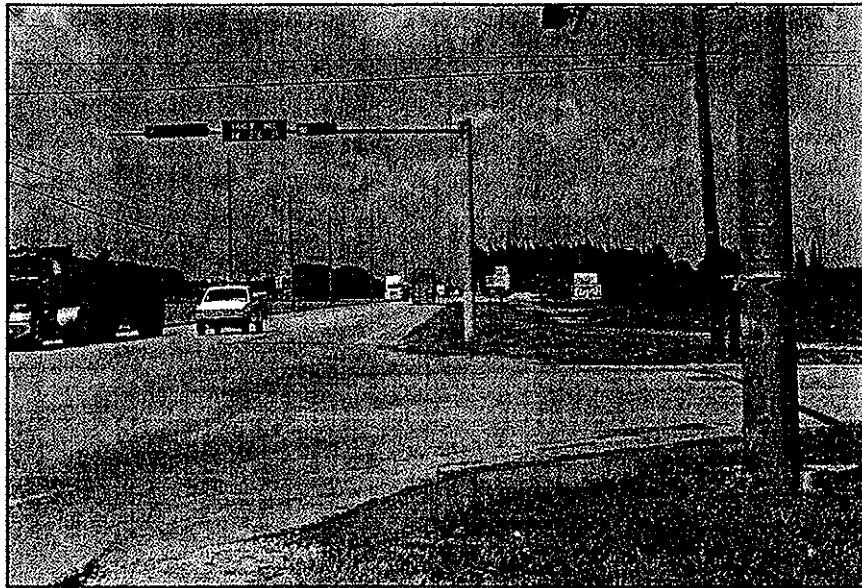
#### *Location*

The intersection of Hainlin Mill Drive and Krome Avenue is located within a rural developed area. There are no major developments at this intersection and all four quadrants of the intersection are comprised of either fields or tree nurseries. Figure 6-13 shows the south approach of the intersection.

#### *Intersection Geometry*

Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. Hainlin Mill Drive consists of one lane in each direction on the eastbound and westbound approaches. The vertical and horizontal alignment of the intersection is level and straight.





**Figure 6-13: South Approach, Hainlin Mill Drive and Krome Avenue**

#### *Traffic Control Devices and Signal Visibility*

Hainlin Mill Drive and Krome Avenue is a signalized intersection. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.

#### *Signage*

Street signage includes the presence of advanced warning signs approximately prior to entering the intersection on all approaches. Other street signage includes posted speed signs and state road signs.

#### *Sight Distance*

Sight distance for all turning movements is poor for all of the approaches to the intersection due to the trees and foliage present in each quadrant.

#### *Pavement Conditions and Markings*

The pavement structure was found to be in poor condition. Evidence of pavement cracking and fracture was noted on the roadway. A majority of the turning radii were also noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

#### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and have evidence of skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of utility structures or fencing. The east and west approaches have small and uneven roadway shoulders and have either limited clear zones leading to tree and utility lines or fencing.

### *Drainage*

The Hainlin Mill Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii.

### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

### *Pedestrian Facilities*

There is no presence of pedestrian footpaths on any of the four approaches.

### *General Observations*

This intersection was noted as having had a number of rear end or left turn collisions typically due to careless driving or disregarding of traffic signals.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection and no improvements were recommended based on the capacity analysis.

### *Recommendations*

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility
- Cut back foliage boundary

#### *Long Term Options*

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections

### **Quail Roost Drive (SW 200<sup>TH</sup> St) and Krome Avenue (SR 997) MP 9.884**

#### *Location*

The intersection of Quail Roost Drive and Krome Avenue is located within a developed area. The northeast and southeast quadrants of the intersection comprise of field areas. A gas station and bank is located on the northwest quadrant of the intersection and both have driveways leading onto either Quail Roost Drive or Krome Avenue. The quadrant to the southeast also comprises of a convenience store and large unpaved parking area with driveways leading to Quail Roost Drive and Krome Avenue. Figure 6-14 shows the east approach of the intersection.



**Figure 6-14: East Approach, Quail Roost Drive and Krome Avenue**

#### *Intersection Geometry*

Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. The east approach of Hainlin Mill Drive consists of a shared left and through turn lane and a right turn lane and the west approach has one lane in each direction. It was noted that because of the generous roadway width of the east approach, occasionally vehicles ignored the intersection configurations and attempted to fit three vehicles abreast at the intersection (as shown in Figure 6-14). The vertical and horizontal alignment of the intersection is level and straight.

#### *Traffic Control Devices and Signal Visibility*

Quail Roost Drive and Krome Avenue is a signalized intersection. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.

#### *Signage*

Street signage includes the presence of advanced warning signs prior to entering the intersection on all approaches. Other street signage includes posted speed signs and state road signs.

#### *Sight Distance*

Sight distance for turning movements is limited for most of the approaches to the intersection due to the presence of structures, utility poles, trees and foliage.

#### *Pavement Conditions and Markings*

The pavement structure was found to be in poor condition. Evidence of pavement cracking and fracture was noted on the roadway. A majority of the turning radii were also noted to be fragmented

and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

#### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and have evidence of skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of utility structures or fencing. The east and west approaches have small and uneven roadway shoulders and have either limited clear zones leading to tree and utility lines or fencing.

#### *Drainage*

The Biscayne Drive and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii.

#### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

#### *Pedestrian Facilities*

There is no presence of pedestrian footpaths on any of the four approaches.

#### *General Observations*

This intersection was noted as having had several serious rear end crashes either within or near the intersection's vicinity. There is the presence of an extra utility pole propped against an existing pole in the westbound direction on the east approach.

#### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection. The addition of an eastbound left-turn lane and signal modifications were recommended at this intersection based on the results of the capacity analysis.

### ***Recommendations***

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility
- Cut back foliage boundary

#### *Long Term Options*

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections

- Provide improved drainage at intersections
- Either relocate or provide guardrail or other crash shield for the utility pole on the north side of the east approach.

**Eureka Drive (SW 184<sup>TH</sup> St) and Krome Avenue (SR 997) MP 10.896**

*Location*

The intersection of Eureka Drive and Krome Avenue is located within a rural developed area. The quadrants to the north of the intersection consist of field areas. A gas station is located on the southwest quadrant of the intersection and has driveways leading onto both Eureka Drive and Krome Avenue. The quadrant to the southeast also comprises of a high-density trees surrounded by a chain link fence. Figure 6-15 shows the south approach of the intersection.



**Figure 6-15: South Approach, Eureka Drive and Krome Avenue**

*Intersection Geometry*

Krome Avenue has a left turn lane and a shared through and right turn lane for the north and south approaches to the intersection. Eureka Drive consists of one lane in each direction on the west approach, while the east approach has a shared right and through lane and left-turn lane. The vertical and horizontal alignment of the intersection is level and straight.

*Traffic Control Devices and Signal Visibility*

Eureka Drive and Krome Avenue is a signalized intersection. Protected-permitted left turn phasing is used on Krome Avenue. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.

### *Signage*

Street signage includes the presence of advanced warning signs prior to entering the intersection on the north and south approaches. The east and west approaches have no advanced warning signs. Other street signage includes posted speed signs and state road signs.

### *Sight Distance*

Sight distance for turning movements is poor for most of the approaches to the intersection due to the presence of high-density foliage, trees, fencing and utility structures.

### *Pavement Conditions and Markings*

A majority of the turning radii were noted to be fragmented and badly deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and have evidence of skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of lighting structures or development. An abrupt edge drop off from the pavement shoulder to the grass area was present on the west side of the south approach. Both east and west approaches have several feet of grassed area leading to utility structures, fields or foliage boundaries.

### *Drainage*

The Eureka Drive and Krome Ave intersection shows some signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii.

### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

### *Pedestrian Facilities*

There is no presence of a pedestrian footpath on any of the four approaches to the intersection.

### *General Observations*

This intersection is noted as having had several serious angle crashes.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection. The addition of a northbound right-turn lane is recommended by 2010 and the addition of a westbound left-turn lane and signal modifications is recommended by 2020 based on the results of the capacity analysis.

### *Recommendations*

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections

- Cut back foliage boundary
- Install back plates on traffic signals to improve visibility

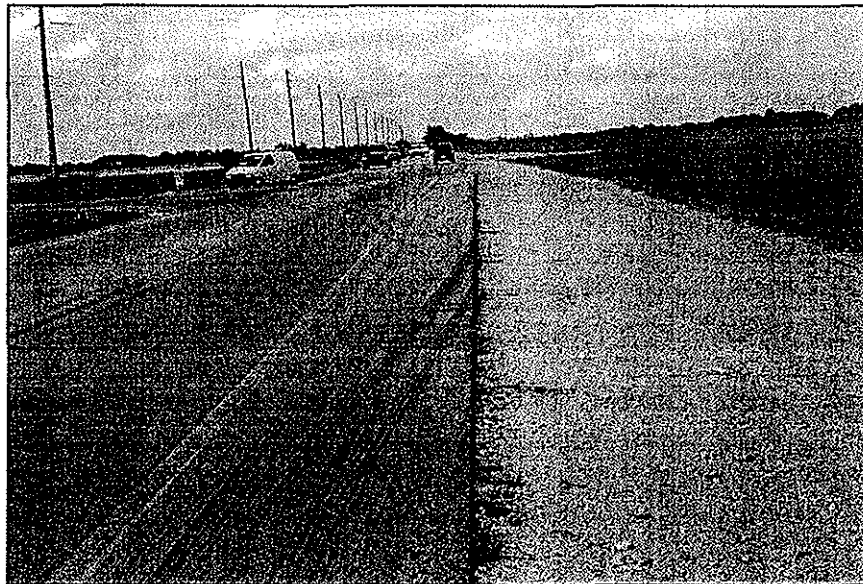
#### *Long Term Options*

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections

#### **Howard Road (SW 136<sup>TH</sup> St) and Krome Avenue (SR 997) MP 13.895**

##### *Location*

The intersection of Howard Road and Krome Avenue is located within a rural area. The areas surrounding the intersection are vacant farmed fields. Figure 6-16 shows the north approach of the intersection.



**Figure 6-16: North Approach, Howard Road and Krome Avenue**

##### *Intersection Geometry*

Howard Road and Krome Avenue form a T-intersection and each of the three approaches consists of one lane in each direction. The vertical and horizontal alignment of the intersection is level and straight.

##### *Traffic Control Devices and Signal Visibility*

Howard Road and Krome Avenue is an unsignalized intersection. One stop sign is present on the west approach of the intersection.

### *Signage*

Street signage includes the presence of advanced warning signs in both the north and south bound directions prior to entering the intersection. No advanced warning signage was noted on the west approach.

### *Sight Distance*

Sight distance for turning movements is clear for all of the approaches.

### *Pavement Conditions and Markings*

Evidence of moderate pavement cracking and fracture was noted on the roadway. Both turning radii at west approach of the intersection were also noted to be fragmented and badly deteriorating. Roadway markings on all of the approaches were noted to be either badly worn or absent. Several dark skid marks were noted in the north bound direction on the south approach indicating delayed braking for vehicles following turning vehicles into Howard Road. Roadway shoulders were extremely exposed, uneven and worn.

### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulder on the north and south approaches are approximately two feet in width and show evidence of large dark skid marks and wear. The clear zones comprise of several feet of grassed area leading up to either a line of utility structures or field areas. The northbound clear zone of the intersection was noted to have a severe edgeline drop-off with the presence of deep skid marks indicating that some vehicles are unable or unwilling to stop for left hand turning movements. The west approach has a small and uneven roadway shoulder with anywhere between five to fifteen feet of grassed area leading to utility structures or field boundaries.

### *Drainage*

The Howard Road and Krome Ave intersection shows signs of poor drainage and run off problems. Especially noted was the presence of water in the deteriorated turning radii and worn shoulders of approaches.

### *Roadway Lighting and Utility Services*

There is no roadway lighting present at this intersection or leading up to its approaches.

### *Pedestrian Facilities*

There is no presence of pedestrian facilities on any of the approaches.

### *General Observations*

This intersection was noted as having had two fatal incidents due to angle crashes.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

The FDOT has programmed turn lane additions, improved return radii, and improved lighting, signing, and pavement markings at this intersection. Specifically, a left-turn lane will be added to the south approach of Krome Avenue. Signalization was recommended at this intersection based on the results of the capacity analysis.



## **Recommendations**

### **Short Term Options**

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Level transition from travel way to clear zone

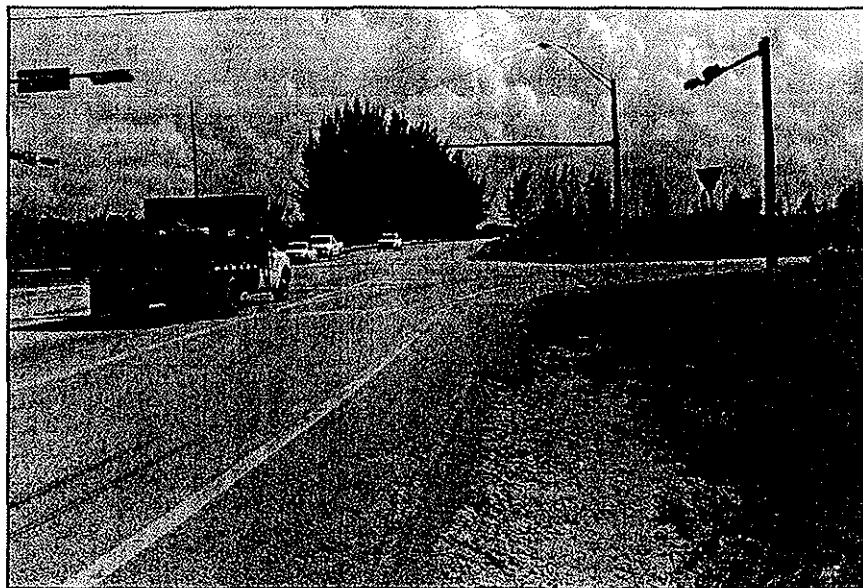
### **Long Term Options**

- Provide lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Left and right turning lanes into Howard Road from the north and south approaches.
- Upgrade paved shoulders for approaching intersections
- Upgrade clear zones for approaching intersections
- Improve intersection warning and visibility through advanced warning signs and flashing lights on stop signs where necessary
- Provide improved drainage at intersections

### **Kendall Drive (SW 88<sup>TH</sup> St) and Krome Avenue (SR 997) MP 17.431**

#### **Location**

The intersection of Kendall Drive and Krome Avenue is located within a rural developed area. Each of the four quadrants of the intersection consists of high-density foliage areas and some watercourses. Guardrails also surround the northeast and southeast quadrants. Figure 6-17 shows the north approach of the intersection.



**Figure 6-17: North Approach, Kendall Drive and Krome Avenue**

### *Intersection Geometry*

Both the north and south approaches of Krome Avenue have an exclusive left turn lane, one through lane and a right turn lane. The east approach of Kendall Drive has a shared left and through lane plus an exclusive right turn lane. This approach is divided by a wide grassed median strip. The west approach is considerably narrower than the east approach and has one shared lane for left, through, and right turn movements eastbound and one lane westbound.

### *Traffic Control Devices and Signal Visibility*

Kendall Drive and Krome Avenue is a signalized intersection. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals. There is one yield sign on each of the right turn lanes in the east and westbound directions.

### *Signage*

Street signage includes the presence of advanced warning signs prior to entering the intersection on all approaches. Other street signage includes posted speed signs and state road signs.

### *Sight Distance*

Sight distance for turning movements is poor for most of the approaches to the intersection due to the presence of high-density foliage and trees.

### *Pavement Conditions and Markings*

The turning radii were noted to be showing signs of deterioration. Roadway markings on most of the approaches were noted to be either badly worn or absent.

### *Shoulder and Clear Zone Characteristics*

The northbound side of Krome Avenue lacks a notable paved roadway shoulder and no clear zone due to the presence of the guardrail. The paved roadway shoulder on the southbound side of Krome Avenue is approximately two feet in width, has evidence of skid marks and is uneven. The southbound clear zone comprises of several feet of grassed or graveled area leading up to foliage boundaries.

### *Drainage*

There are no obvious signs of poor drainage or run off problems within the intersection or surrounding area.

### *Roadway Lighting and Utility Services*

There are lighting structures present atop the northeast and southwest corner traffic signals. The west approach of the intersection also has lighting.

### *Pedestrian Facilities*

There is no presence of pedestrian facilities on any of the four approaches to the intersection.

### *General Observations*

This intersection was noted as having one fatal incident, a safety ratio greater than one, some serious accidents due to rear ending, angle crashes from disregarding signals and left turn crashes from failing to yield.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

No improvements are planned at this intersection. The addition of an eastbound left-turn lane, a westbound left-turn and left-through shared lane, dual westbound right-turn lanes, southbound dual left-turn lanes, and signal timing modifications is recommended based on the results of the capacity analysis.

### *Recommendations*

#### *Short Term Options*

- Remove yield signs from intersection and have right turns operate through the signal (right-turn on red)
- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility
- Cut back foliage boundary

#### *Long Term Options*

- Increase lighting at the intersection
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections

### **Tamiami Trail (SW 8<sup>TH</sup> St) and Krome Avenue (SR 997) MP 22.430**

#### *Location*

The intersection is located within a developed area. A canal runs westbound along Tamiami Trail. There is also a northbound water structure running parallel to Krome Avenue. A gas station with a truck stop is located at the southeast corner of the intersection, with driveways on both Krome Avenue and Tamiami Trail. A tobacco store is located on the southwest corner of the intersection, with a driveway on Krome Avenue. A truck service center (although slightly offset from the intersection) is also located on the southwest corner of the intersection, also with a driveway on Krome Avenue. There is roadway construction present eastbound on Tamiami Trail. Figure 6-17 shows the north approach of the intersection.

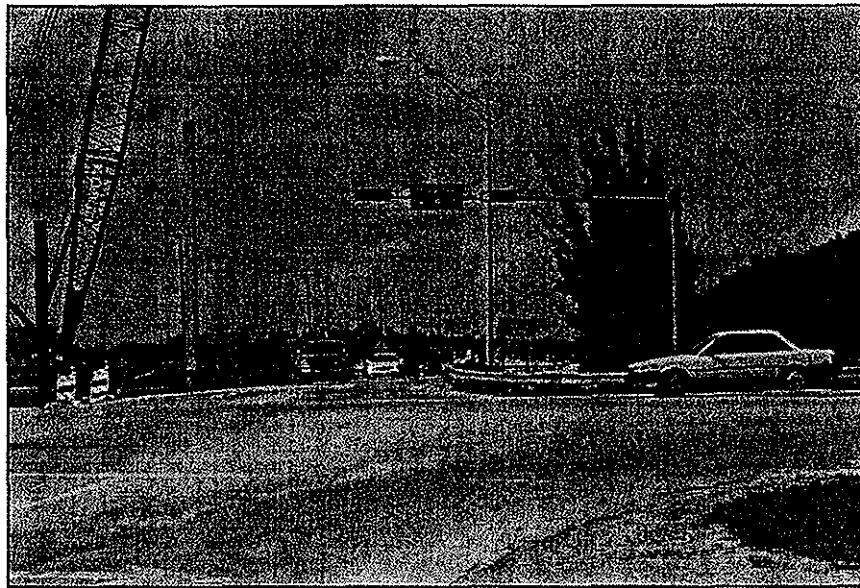
#### *Intersection Geometry*

The south approach of Krome Avenue has a right turn lane and a shared left and through lane, whilst the north approach provides an exclusive left turn lane and shared right and through lane. Tamiami Trail consists of two through lanes and exclusive left and right turn lanes in each direction. Tamiami

Trail is divided down the centerline by a grassed median strip. The vertical and horizontal alignment of the intersection is level and straight.

#### *Traffic Control Devices and Signal Visibility*

Tamiami Trail and Krome Avenue is a signalized intersection. Protected-permitted left turn phasing is used on Krome Avenue. Signal visibility appears adequate. Signals are shaded with visors and signal lenses appear to be clear and bright. There are no back plates present on any of the traffic signals.



**Figure 6-18: South Approach towards North, Tamiami Trail and Krome Avenue**

#### *Signage*

Street signage includes the presence of advanced warning signs prior to entering the intersection on all approaches. Other street signage includes posted speed signs and state road signs.

#### *Sight Distance*

Sight distance for turning movements is limited for most of the approaches to the intersection due to foliage boundaries, bridge and road construction and temporary roadside signage.

#### *Pavement Conditions and Markings*

Portions of the pavement structure were noted to be fragmented and deteriorating. White roadway markings on most of the approaches were noted to be either badly worn or absent.

#### *Shoulder and Clear Zone Characteristics*

The paved roadway shoulders on all approaches are narrow in width, uneven and show evidence of wear. The clear zones are limited on each approach with the presence of driveways and roadside structures such as guardrails or lighting poles.

### *Drainage*

There appears to be no obvious signs of poor drainage or run off problems within the intersection or surrounding area.

### *Roadway Lighting and Utility Services*

There is roadway lighting present on both sides of Tamiami trail.

### *Pedestrian Facilities*

There is no presence of a pedestrian footpath on any of the four approaches to the intersection.

### *General Observations*

This intersection is noted as having had several serious crashes.

### *Planned Improvements/Improvements Recommended Based on Capacity Analysis*

The FDOT has programmed turn lane additions, improved return radii, and improved lighting, signing, and pavement markings at this intersection. Specifically, a left-turn lane and a right-turn lane will be added to the north approach of Krome Avenue and a left-turn lane will be added to the south approach of Krome Avenue. No improvements were recommended at this intersection based on the results of the capacity analysis.

### ***Recommendations***

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility

#### *Long Term Options*

- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections

### **Okeechobee Road (US27) and Krome Avenue (SR 997) MP 14.275**

The Okeechobee Road and Krome Avenue intersection was noted as having had a series of serious crashes throughout the study period. This is a complex unsignalized intersection between two high-speed facilities. Due to the complexity of this intersection and the issues associated with Okeechobee Road that need to be included in an analysis, it is recommended that a detailed traffic operations analysis and a signal warrant analysis be conducted at this location.

### **SUMMARY**

Based on existing conditions, the following short and long-term countermeasures have been established for the intersections along the study corridor.

### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility
- Improve intersection warning and visibility through advanced warning signs, reflectors, and flashing lights where necessary
- Level transition from travel way to clear zone at the Howard Road intersection.
- Cut back foliage boundary
- Remove yield signs from intersection and have right turns operate through the signal (right-turn on red) at the Kendall Drive intersection

### *Long Term Options*

- Increase lighting at the intersections
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections
- Either relocate the utility pole or provide guardrail or other crash shield for the utility pole on the north side of the east approach at the Quail Roost intersection

These recommended improvements, along with the programmed improvements by the FDOT and the improvements recommended based on the capacity analysis, will provide for consistent features and treatments along the study corridor and will provide improved safety and enhanced capacity. The implementation procedure for the improvements should be prioritized after conducting a cost/benefit analysis and after a careful investigation of alternatives has been conducted.

### **Planning Level Cost Estimates**

Based on guidance provided by the FDOT, planning level cost estimates and recommendations were provided for several of the potential intersection improvements identified in Table 4-2 and for several of the short-term recommended system countermeasures and intersection countermeasures.

### **Operational Improvement Recommendations**

The FDOT is currently preparing cost estimates for a number of intersections included in the Krome Avenue Corridor. The improvements at these locations consist of adding left-turn lanes on Krome Avenue, improved return radii, lighting, signing, and pavement markings at the intersection, exclusive right-turn lanes on certain side street approaches, and shoulder improvements on Krome Avenue (providing 5-foot paved and 7-foot unpaved shoulders on Krome Avenue for approximately 1,000 feet north and south of the intersection). Based on this work, an average total construction cost estimate of \$500,000 for unsignalized intersection improvements and \$600,000 for signalized intersection improvements was calculated (a contingency is included in the cost estimate). This forms the basis for the cost estimates provided below:

- Quail Roost Drive/SW 200<sup>th</sup> Street: An eastbound left-turn lane is recommended at this intersection. Based on a field review of the site, it appears that the widening on the west approach to accommodate the turn lane can be achieved without impacting the existing signal poles. Therefore, an approximate cost of \$500,000 is recommended at the intersection for the addition of the turn lane and the other associated improvements (improved return radii, lighting, signing, and pavement markings at the intersection, shoulder improvements on Krome Avenue, and drainage improvements).
- Eureka Drive/SW 184<sup>th</sup> Street: A northbound right-turn lane and a westbound left-turn lane are recommended at this signalized intersection. Based on a field review of the intersection, it appears that the widening on the south approach and the east approach to accommodate the turn lanes can be achieved without impacting the existing signal poles (the south approach is shown in Figure 6-19). Therefore, an approximate cost of \$500,000 is recommended at the intersection for the addition of the turn lanes and the other associated improvements (improved return radii, lighting, signing, and pavement markings at the intersection, shoulder improvements on Krome Avenue, and drainage improvements).
- Kendall Drive/SW 88<sup>th</sup> Street: The addition of an eastbound left-turn lane, a westbound left-turn and left-through shared lane, a second westbound right-turn lane and a second southbound left-turn lane are recommended at this signalized intersection. To accommodate the additional turn lanes from Kendall Drive (double left-turn lanes and double right-turn lanes), Krome Avenue will have to be widened north and south of Kendall Drive intersection. This was assumed to occur through the use of auxiliary lanes on Krome Avenue that would extend approximately 1,000 feet from the intersection before being tapered back to the existing two-lane section. Due to the major reconfiguration of all of the intersection legs, the need to relocate the existing traffic signals, the significant drainage issues (a canal runs on the east side of Krome Avenue and on the north and south sides of Kendall Drive) and the presence of a utility line on the north side of Kendall Drive, an approximate cost of \$1,000,000 is recommended at this intersection.

It is noted that due to the impacts of the proposed improvements at this intersection, a Project Development and Environmental Study (PD&E Study) that considers a range of alternatives would likely need to be completed for construction approval. Therefore, the estimated approximate cost should be viewed as a starting point for planning purposes that will likely change as detailed alternatives are developed and analyzed.

- Okeechobee Road/US 27: Signalization of this intersection is recommended. The approximate cost of \$200,000 is recommended for signalization of the intersection and signing and striping leading to the intersection.



**Figure 6-19: South Approach of Eureka Drive/SW 184<sup>th</sup> Street**

#### **System and Intersection Countermeasures**

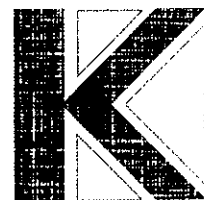
- Raised pavement markers (RPMs) and improved pavement markings: The cost to purchase and install RPMs and improve the existing pavement markings in the study area is estimated to be approximately \$225,000. This estimated cost does not include the lengths of Krome Avenue that will be impacted by the five intersections programmed for improvement (it was assumed the five intersections programmed for improvement would have RPMs and improved pavement markings included in the project). It is noted that this cost estimate should be modified when a striping plan is updated
- Signal backplates: The cost to purchase and install traffic signal backplates at the five intersections on Krome Avenue not programmed for improvement (it was assumed the other intersections already programmed for improvement would have backplates included in the project) is estimated to be approximately \$15,000 for all of the intersections.
- Several shoulder improvements will be addressed as part of the FDOT programmed improvements and as part of the intersection improvements recommended based on the capacity analysis. It is therefore recommended that the FDOT perform shoulder improvements (repave, level, etc) on the remaining portions of Krome Avenue as part of a routine maintenance program.



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## Section 7

### Conclusions



## 7. Conclusions

In summary, it is clear that traffic volume growth and increasing levels of congestion have contributed to driver frustration and attempts to make risky passing maneuvers on Krome Avenue. This has probably led to an increase in the number and severity of crashes in the corridor. Short of widening the highway to a four lane divided section, there are a number of congestion and safety countermeasures that could be considered in the short-term and long-term that will enhance mobility and safety in the corridor. (Some of these improvements are consistent with the previously approved Action Plan and some of them are in addition to the Action Plan improvements.) However, there are four factors that, in combination, argue for the consideration of widening Krome Avenue to a four lane divided section:

- The fact that Krome Avenue is on the Florida Intrastate Highway System and the requirement that it be designated as controlled-access facility with a cross-section that provides for at least four lanes with a restrictive median.
- The likelihood that the high percentage of trucks that use the entire length of the corridor contribute to an increase in crash severity when trucks are involved in crashes.
- The increasing levels of roadway and intersection congestion and the difficulty in mitigating these levels of congestion short of providing for additional north-south through movement capacity.
- The crash experience on Krome Avenue exceeds the statewide average for this type of roadway. The high number of crashes and the increase in crash severity (as demonstrated by an increase in the number of fatal crashes largely due to head-on and angle collisions) that likely would be mitigated by physically separating the directions of travel with a median.

For these reasons, it is recommended that a Project Development and Environment process be conducted to consider the range of solutions for improving the operational and safety characteristics of Krome Avenue. This PD&E study should consider the potential improvements that have been suggested by this corridor study (including the possibility of traffic signals) and additional improvements that may come from the public involvement effort that occurs during the PD&E study.

The following countermeasures have been identified for implementation in the short and long terms basis:

### **System Countermeasures Recommendations**

As the need for these treatments occurs throughout the length of Krome Avenue (to varying degrees), the treatments should be considered for application on the entire corridor.

#### *Short-Term*

- Raised pavement markers (RPMs), improved pavement markings, and use of reflective tape on signposts. This treatment will have the lowest cost and can likely be implemented in the shortest period of time.
- Provide a smooth transition to the clear zone. This consists of leveling edge drop-offs between the paved portion of the roadway and the unpaved (either gravel or grass) portion of the clear zone. Figure 6-2, Figure 6-3, and Figure 6-4 show examples of edge drop-offs on

Krome Avenue. FDOT Standard Index 105 (shown in Figure 6-5) provides guidance on treatments used to provide a smooth transition to the clear zone. These treatments can be part of a roadway maintenance program.

- Improve the condition of existing shoulders. As recommended in the *Krome Avenue Action Plan*, widen the paved shoulders to 10 feet approaching intersections and railroads from Avocado Drive to Kendall Drive and provide 5-foot paved and 5-foot turfed shoulders from Kendall Drive to Okeechobee Road. A lower cost option for this alternative is to fix the existing shoulders (repave or regrade) on Krome Avenue.

#### *Long-Term*

- Evaluate the feasibility of changing the existing two-lane undivided Krome Avenue corridor to include:
  - Four-lane median separated sections;
  - Passing lanes; and/or
  - A median Separated Two-Lane Section.
- Provision of the widest feasible clear zone and improved shoulder design.
- Upgrade Krome Avenue to controlled access facility standards (previously defined).
- Provision of a roadway lighting system in the corridor.

#### **Intersection Countermeasures Recommendations**

Based on existing conditions, the following short and long-term countermeasures have been established for the intersections along the study corridor.

#### *Short Term Options*

- Repaint and re-stripe roadway markings
- Provide reflective roadway markings at intersections
- Install back plates on traffic signals to improve visibility
- Improve intersection warning and visibility through advanced warning signs, reflectors, and flashing lights where necessary
- Level transition from travel way to clear zone at the Howard Road intersection.
- Cut back foliage boundary
- Remove yield signs from intersection and have right turns operate through the signal (right-turn on red) at the Kendall Drive intersection

#### *Long Term Options*

- Increase lighting at the intersections
- Upgrade and repair pavement structures, in particular the turning radius of each approach
- Upgrade and widen paved shoulders for approaching intersections
- Upgrade and widen clear zones for approaching intersections
- Provide improved drainage at intersections

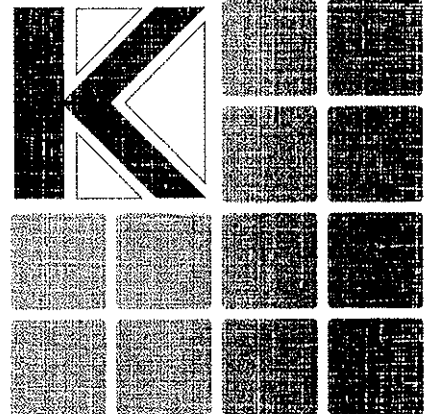
- Either relocate the utility pole or provide guardrail or other crash shield for the utility pole on the north side of the east approach at the Quail Roost intersection

These recommended improvements, along with the programmed improvements by the FDOT and the improvements recommended based on the capacity analysis, will provide for consistent features and treatments along the study corridor and will provide improved safety and enhanced capacity. The implementation procedure for the improvements should be prioritized after conducting a cost/benefit analysis and after a careful investigation of alternatives has been conducted.

---

## Section 8

## References



## 8. References

1. *Quality/Level of Service Handbook*, Florida Department of Transportation, 2002
2. *Manual on Uniform Traffic Studies*, Florida Department of Transportation, January 2000
3. *Highway Capacity Manual*, Transportation Research Board, 2000
4. *Manual on Uniform Traffic Control Devices – Millennium Edition*, US Department of Transportation-Federal Highway Administration, 2001
5. *NCHRP Report 440 – Accident Mitigation Guide for Congested Rural Two-Lane Highways*. Transportation Research Board. 2000.
6. Ulman, G.L. *Retroreflective Raised Pavement Marker Field Testing: Initial Interim Report*. Report Number 1946-1 (1992).
7. *Krome Avenue Action Plan*, October 1999, prepared by Keith and Schnars, P.A. for the Florida Department of Transportation, District Six.
8. *FDOT Median Handbook*, January 10, 1997.



## **APPENDIX C**

### *Miami-Dade County Resolutions*



## Miami-Dade Legislative Item

### File Number: 020550

[Printable PDF Format](#)
**File Number:** 020550**File Type:** Resolution**Status:** Adopted**Version:** 0**Reference:** R-199-02**Control:****File Name:** AMEND CDMP PROCESS TO ALLOW WIDENING OF KROME AVE.**Introduced:**  
2/26/2002**Requester:** NONE**Cost:****Final Action:** 2/26/2002**Agenda Date:** 2/26/2002 **Agenda Item Number:** 6O2D

**Notes: Title:** RESOLUTION INSTRUCTING THE COUNTY MANAGER TO EXPEDITE THE COMPREHENSIVE DEVELOPMENT MASTER PLAN ("CDMP") AMENDMENT PROCESS TO ALLOW THE WIDENING OF KROME AVENUE IN MIAMI-DADE COUNTY AS A FOUR LANE ROAD, INCLUDING AS APPROPRIATE FILING AN APPLICATION TO AMEND THE CDMP IN THE OCTOBER 2001 CYCLE

**Indexes:** CDMP**Sponsors:** Dr. Miriam Alonso, Prime Sponsor

TRAFFIC FLOW

**Sunset Provision:** No**Effective Date:****Expiration Date:****Registered Lobbyist:** None Listed

### Legislative History

Acting Body	Date	Agenda Item	Action	Sent To	Due Date	Returned	Pass/Fail
Board of County Commissioners	2/26/2002	6O2D	Adopted				P
<b>REPORT:</b>		(See Report Under Agenda Item 6O2A)					

### Legislative Text

#### TITLE

RESOLUTION INSTRUCTING THE COUNTY MANAGER TO EXPEDITE THE COMPREHENSIVE DEVELOPMENT MASTER PLAN ("CDMP") AMENDMENT PROCESS TO ALLOW THE WIDENING OF KROME AVENUE IN MIAMI-DADE COUNTY AS A FOUR LANE ROAD, INCLUDING AS APPROPRIATE FILING AN APPLICATION TO AMEND THE CDMP IN THE OCTOBER 2001 CYCLE



**BODY**

WHEREAS, within the past week there have been three or more accidents along Krome Avenue that have resulted in several fatalities; and

WHEREAS, it is of official concern to Miami-Dade County that Krome Avenue be as safe as possible to the traveling public, since protection of human life must be our number one priority; and

WHEREAS, the Miami-Dade County CDMP must be amended to allow the widening of Krome Avenue; and

WHEREAS, section 2-116.1, Code of Miami-Dade County, allows this Board to direct the filing of a special schedule application for consideration in the October 2001 CDMP amendment cycle,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that the County Manager is hereby directed to expedite the Comprehensive Development Master Plan ("CDMP") amendment process to include the widening of Krome Avenue in Miami-Dade County, as a four lane road, including, as appropriate, the filing of an application to amend the CDMP for consideration in the October 2001 CDMP amendment cycle.

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Approved \_\_\_\_\_ Mayor  
Veto \_\_\_\_\_  
Override \_\_\_\_\_

Substitute  
Special Item No.1  
10-10-02

OFFICIAL FILE COPY  
CLERK OF THE BOARD  
OF COUNTY COMMISSIONERS  
DADE COUNTY, FLORIDA

ORDINANCE NO. 02-198

ORDINANCE RELATING TO MIAMI-DADE COUNTY  
COMPREHENSIVE DEVELOPMENT MASTER PLAN;  
PROVIDING DISPOSITION OF APPLICATIONS FILED IN  
OCTOBER 2001 CYCLE TO AMEND, MODIFY, ADD TO OR  
CHANGE COMPREHENSIVE DEVELOPMENT MASTER  
PLAN; PROVIDING SEVERABILITY, EXCLUSION FROM  
THE CODE AND AN EFFECTIVE DATE

WHEREAS, this Board has provided a procedure (codified as Section 2-116.1 of the Code of Miami-Dade County, Florida) to amend, modify, add to or change the Miami-Dade County Comprehensive Development Master Plan (CDMP); and

WHEREAS, Miami-Dade County's procedures reflect and comply with the procedures for adopting or amending local comprehensive plans as set forth in Section 163, Part II, Florida Statutes; and

WHEREAS, fourteen CDMP amendment applications were filed by private parties with the Miami-Dade County Department of Planning and Zoning on or before October 31, 2001, and are contained in the document titled "October 2001 Applications to Amend the Comprehensive Development Master Plan" dated December 5, 2001; and

WHEREAS, Application No. 15 was filed by the Miami-Dade County Department of Planning and Zoning on February 25, 2002, and is contained in the Department's Initial Recommendations report addressing the October 2001 Applications, published on February 25, 2002; and

WHEREAS, Application No. 16 was filed by the Miami-Dade County Department of Planning and Zoning on February 28, 2002, as directed by the Board of County Commissioners in Resolution No. R-199-02 adopted on February 26, 2002; and

MIAMI-DADE CO.  
02-2 (adopted)  
SHELF COPY

WHEREAS, affected Community Councils, the Planning Advisory Board and the Department of Planning and Zoning have acted in accordance with the referenced State and County procedures and have accepted applications, held public hearings and transmitted recommendations for disposition of such applications to this Board; and

WHEREAS, on May 30, 2002, this board, by Resolution, instructed the County Manager to transmit certain applications to the Florida Department of Community Affairs (DCA) pursuant to Section 163.3184(3), F.S.; and

WHEREAS the DCA reviewed certain applications at the request of this Board and has transmitted written comments pursuant to Section 163.3184 (6)(c ), F.S.; and

WHEREAS, the Board of County Commissioners must take final action to Adopt, Adopt With Change or Not Adopt amendment applications no later than sixty (60) days after receipt of written comments from DCA addressing the applications(s); and

WHEREAS, all existing lawful uses and zoning in effect prior to a CDMP amendment are deemed to remain consistent with the CDMP as amended unless the Board of County Commissioners, in conjunction with a particular zoning action, finds such preexisting zoning or uses to be inconsistent with the CDMP based upon a planning study addressing the criteria set forth in the CDMP; and

WHEREAS, the approval of an amendment to the CDMP does not assure favorable action upon any application for zoning or other land use approval but is part of the overall land use policies of the County; and

WHEREAS, any application for zoning or other land use approval involves the application of the County's overall land use policies to the particular request under consideration; and

WHEREAS, the County's overall land use policies include, but are not limited to, the CDMP in its entirety and the County's land development regulations; and

WHEREAS, this Board has conducted the public hearings required by the referenced procedures preparatory to enactment of this ordinance;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA:

Section 1. All matters set forth in the preamble are found to be true and are hereby incorporated by reference as if set forth verbatim and adopted.

Section 2. This Board hereby desires to take further action on all or some of the pending applications filed for review during the October 2001 cycle for amendments, modifications, additions, or changes to the Miami-Dade County Comprehensive Development Master Plan as follows:

Application Number	Applicant/Representative Location (Size) REQUESTED CHANGE TO THE CDMP LAND USE PLAN MAP, POLICIES OR TEXT	FINAL COMMISSION ACTION
2	Victor Posner, The Raven Holding Corp., Security Management Corp., and Golden Glades Acquisition Corp./ David P. Lederman, Esq. Between theoretical NW 3 Avenue and theoretical NW 6 Court, Between NW 177 Street and NW 7 Ave. Extension. (32.5 acres) Subarea 1 FROM: MEDIUM DENSITY RESIDENTIAL (13 to 25 DU/Ac.) TO: INDUSTRIAL and OFFICE (14.1 Acres) Subarea 2 FROM: BUSINESS AND OFFICE TO: INDUSTRIAL AND OFFICE (14.3 Acres) Subarea 3 FROM: MEDIUM DENSITY RESIDENTIAL (13 to 25 DU/Ac.) TO: BUSINESS and OFFICE (4.1 Acres)	Adopted

Application Number	Applicant/Representative Location (Size) REQUESTED CHANGE TO THE CDMP LAND USE PLAN MAP, POLICIES OR TEXT	FINAL COMMISSION ACTION
5	April Realty, LTD A Florida limited partnership/Juan J. Mayol, Jr., Esq. and Ines Marrero-Prieques, Esq. North frontage of SW 42 Street (Bird Road) and between SW 129 and 130 Avenues (4.176 Acres) FROM: LOW DENSITY RESIDENTIAL (2.5 to 6.0/DU/Ac.) TO: BUSINESS and OFFICE	Adopt with change by extending 1 block west to SW 132 Ave. and by changing the LUP map designation to Office/Residential as recommended by Community Council Ten
9	Pelican Bay Development, Inc./ Jeffrey Bercow, Esq. And Ben Fernandez Esq. Southeast corner of SW 200 Street and SW 127 Ave. (9.99 Acres) FROM: LOW DENSITY RESIDENTIAL (2.5 to 6.0 DU/Ac.) TO: BUSINESS and OFFICE	Adopted with acceptance of declaration of restrictions
11	Miami-Dade County Department of Planning and Zoning/ Diane O'Quinn Williams, Director TRANSPORTATION ELEMENT, Traffic Circulation Subelement; and LAND USE ELEMENT, Land Use Plan map: Delete the segment of SW 85 Avenue between SW 213 and 216 Streets from Figures 1 and 3 in the Traffic Circulation Subelement and the Land Use Plan map.	Adopted
12	Miami-Dade County Department of Planning and Zoning/ Diane O'Quinn Williams, Director LAND USE ELEMENT Revise the Population Estimates and Projections by replacing Figure 6.	Adopted
13	Miami-Dade County Department of Planning and Zoning/Diane O'Quinn Williams-Director LAND USE ELEMENT Revise text relating to Business and Office strips and nodes.	Adopted
15	Miami-Dade County Department of Planning and Zoning/Diane O'Quinn Williams, Director LAND USE ELEMENT Revise text relating to "Parks and Recreation" Land Use Plan map category	Adopted with changes as recommended by the Department of Planning and Zoning in the Revised Recommendations Report and modified by the Corrected Errata and Supplement to the Revised Recommendations Report.
16	Miami-Dade County Department of Planning and Zoning/Diane O'Quinn Williams, Director Change Plan designations of Krome Avenue (SR 997/SW 177 Avenue), between US-27 and SW 328 Street, as follows; LAND USE ELEMENT, Land Use Plan map: Change from Minor Roadway (2 lanes) to Major Roadway (3 or more lanes); and TRANSPORTATION ELEMENT, Traffic Circulation Subelement, Figure 1, "Planned Year 2015 Roadway Network: " Change from 2 lanes to 4 lanes	Adopted with changes as recommended by the Department of Planning and Zoning in the Revised Recommendations Report and modified by the Corrected Errata and Supplement to the Revised Recommendations Report, which includes changes to Land

Application Number	Applicant/Representative Location (Size) REQUESTED CHANGE TO THE CDMP LAND USE PLAN MAP, POLICIES OR TEXT	FINAL COMMISSION ACTION
		<p>Use Element Policies 3F, 3G, and 3H, as well as new Policy 4E in the Traffic Circulation Subelement (including the word "other" in Land Use Policy 3F as stated on the record) to approve the designation of Krome Avenue as four lanes between US 27 and SW 296th Street. The motion also includes the following items, not originally in the application:</p> <ul style="list-style-type: none"> <li>• To request the FDOT to submit a plan for expedited funding and construction</li> <li>• To provide a specific time frame for that expediting;</li> <li>• To request FDOT to include a median</li> <li>• To ask both FDOT and the County Manager to present to the Commission a plan for increased safety on Krome Avenue to take effect at the most immediate time possible.</li> </ul>

Section 3. If any section, subsection, sentence, clause or provision of this ordinance is held invalid, the remainder of this ordinance shall not be affected thereby. If any application, or portion of an application is found to be not in compliance pursuant to Section 163.3184, F.S., the remainder of the application subject to such a finding, and the remaining applications adopted by this ordinance shall not be affected thereby.

Section 4. It is the intention of the Board of County Commissioners, and it is hereby ordained that the provisions of this ordinance shall be excluded from the Code of Miami-Dade County, Florida.

Section 5. This ordinance shall become effective ten (10) days after the date of enactment, unless vetoed by the Mayor, and if vetoed, shall become effective only upon an

override by this Board, however, the effective date of any plan amendment shall be in accordance with the following language which is included at the request of the Florida Department of Community Affairs without any admission by Miami-Dade County of the authority of the Department of Community Affairs or any other governmental entity to request or require such language; "The effective date of any plan amendment approved by this ordinance shall be the date a final order is issued by the Department of Community Affairs or Administration Commission finding the amendment in compliance in accordance with Section 163.3184(1)(b), Florida Statutes, whichever occurs earlier. No development orders, development permits, or land uses dependent on such amendment may be issued or commence before it has become effective. If a final order of noncompliance is issued by the Administration Commission, this amendment may nevertheless be made effective by adoption of a resolution affirming its effective status, a copy of which resolution shall be filed with the Clerk of the Board and sent to the Department of Community Affairs, Division of Resource Planning and Management, Plan Processing Team. The Department's notice of intent to find a plan amendment in compliance shall be deemed to be a final order if no timely petition challenging the amendment is filed."

Section 6. This ordinance does not contain a sunset provision.

PASSED AND ADOPTED: **OCT 10 2002**

Approved by County Attorney as  
to form and legal sufficiency: RA6

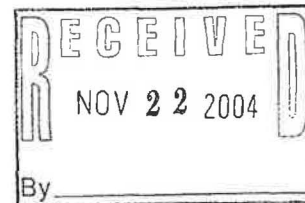
Prepared by:



Robert L. Krawcheck



MIAMI-DADE  
**Empowerment Trust, Inc.**  
*Partnering for Progress*



October 22, 2004

Ms. Monica Diez  
Project Manager  
Florida Department of Transportation  
1000 North West 111 Avenue  
Room 6103  
Miami, Florida 33172

Dear Ms. Diez:

Thank you for your presentation at the October meeting of the Homestead Empowerment Zone Neighborhood Assembly (HEZNA) regarding the expansion and transportation plans for Krome Avenue. The HEZNA support small businesses, community development corporations and community projects that are backed and maintained by residents and that address the needs of the entire community. We understand the vital role transportation and accessibility play in the growth of a small business and the revitalization of a community. We thank you for your efforts in improving the aforementioned for the businesses and residents of Homestead.

On behalf of the HEZNA, I offer our support and endorsement of the Florida Department of Transportation (FDOT) Krome Avenue Development Project. As residents of Homestead we are painfully aware of the dangers and congestion issues related to traveling Krome Avenue. We know the expansion of Krome Avenue will be extremely beneficial to the community and is long overdue. We applaud FDOT and URS in their efforts to make travel to and throughout our community safe with less congestion.

As a life long resident of forty-nine years, Chairman of the HEZNA, and a local business owner, I would like to participate on the Community Involvement committee for this project. I know my extensive knowledge of the needs of the business community and the residential community in Homestead will be greatly beneficial to FDOT and URS. If you require any additional information, or if I can be of further assistance please do not hesitate to contact me at (305) 247-4535. Thank you for consideration in this matter.

Sincerely,

Gary Ferguson  
Chairman

Homestead Empowerment Zone Neighborhood Assembly

Cc: Homestead Empowerment Zone Neighborhood Assembly Members

Bryan K. Finnie, President/CEO Miami Dade Empowerment Trust

Aundra C. Wallace, Vice President/Managing Director Miami Dade Empowerment Trust

Julio Boucle, Consultant Project Manager, URS Corporation





September 13, 2005

**TO:** Hedda Acosta

**FROM:** Mary Finlan

**RE:** Krome Avenue

**Pages:** 2

On behalf of the Board of Directors of the Greater Homestead/Florida City Chamber of Commerce, I would like to express support of the expansion/widening of Krome Avenue to four lanes for the entire length of the roadway. We do not believe the currently planned improvements will address the greater problems that growth will bring in the future, or the current high incidence of traffic accidents on Krome Avenue. The following page of this document contains a copy of a resolution passed by the Board of Directors at their April 18, 2002 meeting. Their position has not changed to date.



The undersigned, The Greater Homestead/Florida City Chamber of Commerce, does here certify that the following resolution was duly adopted at a meeting duly called and held on April 18<sup>th</sup>, 2002.

**A resolution from the Board of Directors of the Greater Homestead/Florida City Chamber of Commerce in support of the expansion of Krome Avenue to four lanes.**

**WHEREAS**, Krome Avenue has been declared one of the most dangerous roads in South Florida, and

**WHEREAS**, twenty per cent of all traffic deaths on State Roads in Miami-Dade County happen on Krome Avenue, and

**WHEREAS**, the number of traffic fatalities on Krome Avenue has increased each year since 1998, and

**WHEREAS**, six people were killed in traffic accidents on Krome Avenue in the first seven weeks of 2002, and

**WHEREAS**, the Florida Department of Transportation has recommended the expansion of Krome Avenue to four lanes,

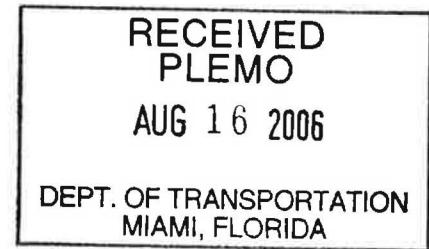
**THEREFORE, BE IT RESOLVED** this 18<sup>th</sup> day of April, 2002, that the Board of Directors of the Greater Homestead/Florida City Chamber of Commerce does hereby support the expansion of Krome Avenue to four lanes.

# VISION COUNCIL



August 11, 2006

Vilma Croft, P.E.  
FDOT Project Manager  
1000 NW 111 Avenue  
Room 6103  
Miami, Florida 33172



Dear Ms. Croft,

The Vision Council Board of Directors recently voted to endorse a four lane, divided highway option for 177<sup>th</sup> Avenue (Krome Avenue) in the area from SW 136<sup>th</sup> Street to SW 296<sup>th</sup> Street.

Krome Avenue is a major economic corridor serving the Deep South Miami Dade area. It serves the agricultural and tourism sectors of our economy as well as the mobility needs of the citizens. It is imperative that we preserve its capacity to serve local business needs even as rapid residential growth in the region places more and more traffic on the road. According to our research, FDOT data traffic counts at three locations on Krome Avenue increased approximately 7.7 percent during the past year.

We are convinced four-laning is the sensible solution to the Krome Avenue issue. It will increase the road's day-to-day capacity and – in our opinion – provide a safer roadway. Additionally, it will expand hurricane evacuation capability and assist in post hurricane recovery efforts. Vision Council has yet select which of the two four-lane alternatives we will ultimately support as the Board feels it needs to know more about the design aspects of the two alternatives and their impact on the community.

Vision Council was formed in 1987 as a non-profit corporation designed to attract and to retain business and industry in the southern most part of Miami-Dade County. It is a public-private organization that acts as a focal point for development activities in conjunction with the cities of Homestead and Florida City, the County and other complimentary organizations. Through an affiliated corporation, Vision Foreign Trade Zone, Inc., we hold the Grant to operate a 1,000-acre Foreign Trade Zone in east Homestead.

If you have any questions, I can be contacted via e-mail at [mrichardson@visioncouncil.com](mailto:mrichardson@visioncouncil.com) or by phone at 305-247-7082.

Sincerely,

Michael E. Richardson  
President/CEO

BPAC RESOLUTION #5-2007

A RESOLUTION SUPPORTING THE KROME TRAIL PROJECT AND  
RECOMMENDING THAT THE TRAIL BE INCLUDED IN THE FINAL  
FDOT PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDY

WHEREAS, the Miami-Dade Metropolitan Planning Organization (MPO) Governing Board has established the Bicycle/Pedestrian Advisory Committee (BPAC) to advise it on bicycle/pedestrian matters; and

WHEREAS, whereas, the Florida Department of Transportation is developing a Project Development and Environmental study for the Krome Ave widening from SW 296 St to SW 136 St that includes a separate paved path within the project right-of-way;

WHEREAS, the Krome Trail is included in the South Dade Greenways Network Master Plan that was developed by the Redland Conservancy and adopted by the Miami-Dade MPO as part of the bicycle facilities plan;

NOW THEREFORE, BE IT RESOLVED BY THE BICYCLE/PEDESTRIAN ADVISORY COMMITTEE OF THE METROPOLITAN PLANNING ORGANIZATION FOR THE MIAMI URBANIZED AREA: the BPAC supports the Krome Trail project and recommends that the trail be included in the final FDOT project development and environmental study.

The foregoing resolution was offered by Gabrielle Redfern, who moved its adoption. The motion was seconded by Susan Kairalla, and being put to a vote, the vote was as follows:

Gabrielle Redfern – aye  
Susan Kairalla – aye

Larry Thorson – aye  
Ted Silver – aye

Eric Tullberg – aye  
Jorge Quadreny – aye

The Chair thereupon declared the resolution duly passed and adopted this 21<sup>st</sup> day of March, 2007.

BICYCLE/PEDESTRIAN ADVISORY COMMITTEE (BPAC)

BY David Henderson  
David Henderson, BPAC Secretariat

Post-it® Fax Note	7671	Date	3/22/7	# of pages	1
To	Julio Boucle	From	DAVID H.		
Co./Dept.	URS	Co.	MPO		
Phone #		Phone #	375-1647		
Fax #	305-261-4017	Fax #			

**CITY OF FLORIDA CITY, FLORIDA  
RESOLUTION NUMBER 09-03**

**A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF FLORIDA CITY IN OPPOSITION TO THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION PLANS AND THEIR EFFORTS TO DESIGN AND BUILD A LIMITED ACCESS, HIGH SPEED INTRASTATE HIGHWAY BETWEEN SW 328<sup>TH</sup> STREET AND US HIGHWAY 1 IN FLORIDA CITY; PROVIDING AN EFFECTIVE DATE.**

**WHEREAS**, The City of Florida City is at the southern end of the peninsula and Krome Avenue terminates at the southern edge of the City; and

**WHEREAS**, Krome Avenue in Florida City is used by families as a convenient transportation corridor as they are traveling from one part of the City to another; and

**WHEREAS**, Krome Avenue in Florida City is used by local agriculture interests to access the State Farmers' Market on a continuing basis, and

**WHEREAS**, Krome Avenue carries very little non-local traffic in a northward direction from its intersection with US 1 to SW 328<sup>th</sup> Street, and

**WHEREAS**, Krome Avenue carries very little non-local traffic in a southward direction from SW 328<sup>th</sup> Street to US1, except for the slow-moving agriculture trucking interests accessing the State Farmers' Market; and

**WHEREAS**, a limited access, high-speed Florida Intrastate Highway System Krome Avenue corridor is not in the best interest of the citizens and agriculture community of South Miami-Dade County, and

**WHEREAS**, the City has requested relief in the form of design changes from the Department of Transportation and only a few design changes have been shown to us, and

**WHEREAS**, the City is very concerned that the design will be completed by the Department of Transportation with insufficient modifications to address our issues.

**NOW, THEREFORE BE IT RESOLVED BY THE MAYOR AND THE CITY COMMISSION OF THE CITY OF FLORIDA CITY, FLORIDA THAT:**

**Section 1:** The City of Florida City wishes to go on record in opposition to the design last presented to the City by the State of Florida Department of Transportation that includes raised medians limiting left turns onto and from Krome Avenue. On May 7, 2008, at a public meeting in Florida City, the design presented to merchants and property owners showed

**RESOLUTION NO: 09-03**

no raised medians except for stacking lanes at intersections. The City is opposed to all medians and requests that the final design incorporate no raised medians.

**Section 2:** The City requests that the Department of Transportation reclassify the section of Krome Avenue between US 1 and SW 328<sup>th</sup> Street to a classification level that allows four lanes with an open center right and left turn lane. Krome Avenue in Florida City should not be a high-speed, limited access highway.

**Section 3:** This Resolution shall take effect immediately upon adoption.

**PASSED AND ADOPTED** by the Mayor and Commission of the City of Florida City on the 27<sup>TH</sup> DAY OF JANUARY, 2009.

  
OTIS T. WALLACE, MAYOR

ATTEST:

  
JENNIFER A. EVELYN, CITY CLERK

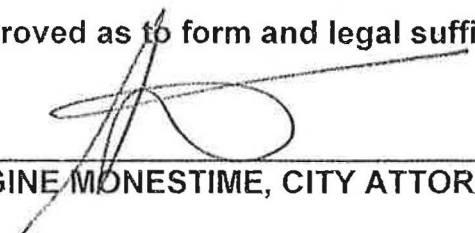
STATE OF FLORIDA  
COUNTY OF MIAMI-Dade  
**Jennifer A. Evelyn**  
City Clerk

I, \_\_\_\_\_  
Of the City of Florida City, Florida do hereby certify  
that the above and foregoing is a true and correct  
copy of the original thereof on file in this office.  
WITNESS, my hand and the seal of said City

this 28th day of Jan AD 2009

By: 

Approved as to form and legal sufficiency:

  
REGINE MONESTIME, CITY ATTORNEY

**RESOLUTION NO: 09-03**

**Motion to adopt by Comm. Berry\*\*\*\*\* seconded by Comm. Butler\*\*\*\*\***

**FINAL VOTE AT ADOPTION**

Mayor Otis T. Wallace	<u>Yes</u>
Vice Mayor Daurell Dorsett	<u>Absent</u>
Commissioner Eugene D. Berry	<u>Yes</u>
Commissioner Sharon Butler	<u>Yes</u>
Commissioner R. S. Shiver	<u>Yes</u>



## **APPENDIX D**

### *High Crash Segment Lists*



High-Crash-Segment\_Krome.txt

FLORIDA DEPARTMENT OF TRANSPORTATION  
HIGH CRASH ROADWAY SEGMENTS FOR 1999

NUMB	COSECSUB	BMP	EMP	ROAD	LNTH	SYSTEM	LANES	CRASHS	ADT	ACTUAL	CRITICAL	RATIO	FTL	INJ	PRTY	TOTAL	98	97
60	87150000	5.342	8.323	S	997	2.981	FAP R 2	32	12,078	2.435	1.016	2.396	1	46	9	\$7004800	87	88
47	87150000	8.385	11.086	S	997	2.701	FAP R 2	33	12,257	2.730	1.028	2.655	1	32	14	\$7223700	85	99
46	87150000	11.539	14.395	S	997	2.856	FAP R 2	16	10,900	1.408	1.038	1.356	0	19	5	\$3502400	88	00

NUMB	COSECSUB	BMP	EMP	STROAD	HIGH LENGTH	CRASH CC	ROADWAY CRASHES	SEGMENTS ADT	FOR 2000 ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
409	87150000	3.693	4.093	SR	997	0.400	S-2UN	9	13,701	4.499	1.308	99.99	0	9	3		
266	87150000	9.737	10.001	SR	997	0.264	R-2DP	10	14,299	7.257	1.341	99.99	0	9	5		
138	87150000	13.701	14.201	SR	997	0.500	R-2UN	15	12,200	6.737	0.621	99.99	4	34	2		

NUMB	COSECSUB	BMP	EMP	STROAD	HIGH LENGTH	CRASH CC	ROADWAY CRASHES	SEGMENTS ADT	FOR 2001 ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
354	87150000	9.737	10.001	SR	997	0.264	R-2DP	10	14,599	7.108	1.566	99.99	0	8	3		
454	87150000	10.733	11.001	SR	997	0.268	R-2DP	8	14,561	5.616	1.566	99.99	0	6	4		
149	87150000	11.801	12.101	SR	997	0.300	R-2UN	11	14,500	6.928	0.641	99.99	2	15	2		
150	87150000	13.701	14.101	SR	997	0.400	R-2UN	14	14,500	6.613	0.641	99.99	0	14	6		

NUMB	COSECSUB	BMP	EMP	STROAD	HIGH LENGTH	CRASH CC	ROADWAY CRASHES	SEGMENTS ADT	FOR 2002 ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
551	87150000	4.247	4.446	SR	997	0.199	S-2DP	8	16,200	6.798	2.490	99.90	1	12	2		
401	87150000	7.737	7.990	SR	997	0.253	R-2DP	9	16,463	5.920	1.543	99.99	0	3	7		

NUMB	COSECSUB	BMP	EMP	STROAD	HIGH LENGTH	CRASH CC	ROADWAY CRASHES	SEGMENTS ADT	FOR 2003 ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
349	87150000	3.693	4.093	SR	997	0.400	S-2UN	12	15,933	5.158	1.262	99.99	0	8	5		
310	87150000	6.720	6.976	SR	997	0.256	R-2DP	11	16,000	7.357	1.521	99.99	0	7	9		
410	87150000	7.737	7.990	SR	997	0.253	R-2DP	9	16,263	5.992	1.521	99.99	0	17	2		
387	87150000	10.733	11.001	SR	997	0.268	R-2DP	10	16,169	6.322	1.521	99.99	0	7	5		
197	87150000	13.701	14.101	SR	997	0.400	R-2UN	11	15,500	4.860	0.608	99.99	0	18	4		

NUMB	COSECSUB	BMP	EMP	STROAD	HIGH LENGTH	CRASH CC	ROADWAY CRASHES	SEGMENTS ADT	FOR 2004 ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
494	87150000	3.693	4.093	SR	997	0.400	S-2UN	9	17,898	3.444	1.119	99.99	0	8	3		
483	87150000	4.247	4.446	SR	997	0.199	S-2DP	10	18,399	7.482	2.487	99.99	0	11	5		
431	87150000	5.342	5.547	SR	997	0.205	R-2DP	9	18,400	6.536	1.782	99.99	0	17	2		
563	87150000	8.750	8.993	SR	997	0.243	R-2DP	8	19,600	4.601	1.782	99.75	0	6	5		
192	87150000	9.737	10.001	SR	997	0.264	R-2DP	19	19,600	10.060	1.782	99.99	0	16			

NUMB	COSECSUB	BMP	EMP	STROAD	HIGH LENGTH	CRASH CC	ROADWAY CRASHES	SEGMENTS ADT	FOR 2005 ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
500	87150000	5.707	5.962	SR	997	0.255	R-2DP	8	15,300	5.617	1.757	99.99	0	6	4		
501	87150000	6.720	6.976	SR	997	0.256	R-2DP	8	15,300	5.595	1.757	99.99	0	8	4		
400	87150000	7.737	7.990	SR	997	0.253	R-2DP	10	15,212	7.118	1.757	99.99	0	5	8		
227	87150000	9.737	10.001	SR	997	0.264	R-2DP	15	15,100	10.309	1.757	99.99	0	9	9		
201	87150000	10.733	11.001	SR	997	0.268	R-2DP	16	15,100	10.832	1.757	99.99	0	6	11		

High-Crash-Segment\_Krome.txt

HIGH CRASH ROADWAY SEGMENTS FOR 2006

NUMB	COSECSUB	BMP	EMP	STROAD	LENGTH	CC	CRASHES	ADT	ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
586	87150000	6.720	6.976	SR 997	0.256	R-2DP	8	17,400	4.920	2.777	95.00	0	5	3			
470	87150000	7.737	7.990	SR 997	0.253	R-2DP	10	17,794	6.085	2.777	99.50	0	9	4			
495	87150000	8.718	9.050	SR 997	0.332	R-2DP	12	18,299	5.411	2.777	99.00	0	8	7			
516	87150000	9.737	10.085	SR 997	0.348	R-2DP	12	18,299	5.162	2.777	99.00	0	2	10			
391	87150000	10.891	11.086	SR 997	0.195	R-2DP	9	16,448	7.687	2.777	99.95	0	6	4			

HIGH CRASH ROADWAY SEGMENTS FOR 2007

NUMB	COSECSUB	BMP	EMP	STROAD	LENGTH	CC	CRASHES	ADT	ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
490	87150000	7.737	7.990	SR 997	0.253	R-2DP	9	17,126	5.690	2.790	99.00	0	4	6			
225	87150000	9.737	10.085	SR 997	0.348	R-2DP	19	17,799	8.404	2.790	99.99	0	12	11			
211	87150000	10.891	11.086	SR 997	0.195	R-2DP	13	17,020	10.731	2.790	99.99	0	8	8			

HIGH CRASH ROADWAY SEGMENTS FOR 2008

NUMB	COSECSUB	BMP	EMP	STROAD	LENGTH	CC	CRASHES	ADT	ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
222	87150000	3.763	3.956	SR 997	0.193	S-2DP	11	17,198	9.079	2.028	99.99	0	13	4			
483	87150000	4.169	4.513	SR 997	0.344	S-2DP	9	16,999	4.216	2.028	99.00	1	11	1			
580	87150000	5.707	5.962	SR 997	0.255	R-2DP	8	16,999	5.056	2.977	95.00	0	8	4			
439	87150000	9.737	10.085	SR 997	0.348	R-2DP	14	18,399	5.990	2.977	99.75	0	12	6			

HIGH CRASH ROADWAY SEGMENTS FOR 2009

NUMB	COSECSUB	BMP	EMP	STROAD	LENGTH	CC	CRASHES	ADT	ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
295	87150000	3.763	3.956	SR 997	0.193	S-2DP	9	16,930	7.546	2.024	99.99	0	11	5			
448	87150000	7.737	7.990	SR 997	0.253	R-2DP	13	17,201	8.184	3.962	99.75	0	12	6			
253	87150000	9.737	10.085	SR 997	0.348	R-2DP	24	18,099	10.439	3.962	99.99	2	17	9			
560	87150000	10.891	11.086	SR 997	0.195	R-2DP	9	17,905	7.062	3.962	97.50	0	7	5			

HIGH CRASH ROADWAY SEGMENTS FOR 2010

NUMB	COSECSUB	BMP	EMP	STROAD	LENGTH	CC	CRASHES	ADT	ACTUAL	AVERAGE	CONLV	FTL	INJ	PRTY	CL-1	CL-2	CL-3
271	87150000	6.720	6.976	SR 997	0.256	R-2DP	16	15,100	11.339	3.511	99.99	0	17	7			
440	87150000	9.737	10.085	SR 997	0.348	R-2DP	17	18,599	7.195	3.511	99.90	1	14	9			
534	87150000	13.702	14.157	SR 997	0.455	R-2DP	17	16,999	6.021	3.511	99.00	0	26	5			



## **APPENDIX E**

### *Planning Consistency Form*

## Planning Requirements for Environmental Document Approvals

<b>Document Information:</b>	
<b>Date:</b> <u>6/20/2013</u>	<b>Document Type:</b> <u>DEIS</u>
<b>Document Status:</b> <u>Draft</u>	
<b>Project Name:</b> <u>SR 997/SW 177th Avenue/Krome Avenue South</u>	<b>FM #:</b> <u>249614-4-22-01</u>
<b>Project Limits:</b> <u>From SW 296th Street To SW 136th Street</u>	<b>ETDM #:</b> <u>7800</u>
<b>Are the limits consistent with the plans?</b> <u>Yes</u>	
<b>Identify MPO(s) (if applicable):</b> <u>Miami-Dade County</u>	<b>Original PD&amp;E FAP#:</b> <u>Not assigned</u>

<b>Currently Adopted CFP-LRTP</b>	<b>COMMENTS</b>
<b>Y/N</b>	<u>SR 997/Krome Avenue from SW 296th Street To SW 136th Street- Re-construction of 2-lane to 4-lane divided.</u>

PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP \$	TIP/STIP FY	COMMENTS
PE (Final Design)	Yes	Yes	565k	<2014	In the TIP/STIP the project is segmented under FM 427369 segments 1,2, and 3
R/W	Yes	Yes	85M	2016/>2018	In the TIP/STIP the project is segmented under FM 427369 segments 1,2, and 3
Construction	Yes	Yes	85M	>2018	In the TIP/STIP the project is segmented under FM 427369 segments 1,2, and 3

**Project Segmented:** Y

**FDOT Preparer's Name:** Vilma Croft, PE

**Date:** 6/20/2013 **Phone #** 305-470-5400

**Preparer's Signature:** 

**Email:** [vilma.croft@dot.state.fl.us](mailto:vilma.croft@dot.state.fl.us)

**\*Attach: LRTP, TIP, STIP pages**

**Planning Requirements for Environmental Document Approvals with Segmented Implementation**

<b>Document Information:</b>	
Date: <u>6/20/2013</u>	Document Type: <u>DEIS</u> Document Status: <u>Draft</u>
Project Name: <u>SR 997/SW 177th Avenue/Krome Avenue South</u>	FM #: <u>427369</u>
Project Limits: <u>From SW 296th Street to SW 136th Street</u>	ETDM #: <u>7800</u>
Are the limits consistent with the plans? <u>Yes</u>	
Identify MPO(s) (if applicable): <u>Miami-Dade County</u>	Original PD&E FAP# <u>Not assigned</u>

<b>Segment Information:</b> From SW 296th Street To SW 232nd Street					
<b>Segment Limits:</b>				<b>Segment FM #: 427369-1</b>	
Currently Adopted CFP-LRTP	COMMENTS				
Y/N	The LRTP will be amended to advance the ROW and Construction phases of the Krome South project in the 2035 LRTP				
PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP \$	TIP/STIP FY	COMMENTS
PE (Final Design)	Yes	Yes	130k 150k	2013-2014 2014-2015	
R/W	Yes	Yes	17M 23.5M	2016-2017 >2017	
Construction	Yes	Yes	33.5M	>2017	

<b>Segment Information:</b> From SW 232nd Street To SW 184th Street					
<b>Segment Limits:</b>				<b>Segment FM #: 427369-2</b>	
Currently Adopted CFP-LRTP	COMMENTS				
Y/N	The LRTP will be amended to advance the ROW and Construction phases of the Krome South project in the 2035 LRTP				
PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP \$	TIP/STIP FY	COMMENTS
PE (Final Design)	Yes	Yes	150k 200k	2013-2014 2014-2015	
R/W	Yes	Yes	2.9M 25.3M/642k	2015-2016 2016-2017/>2017	
Construction	Yes	Yes	23.1M	>2017	

<b>Segment Information:</b> From SW 184th Street To SW 136th Street					
<b>Segment Limits:</b>				<b>Segment FM #: 427369-3</b>	
Currently Adopted CFP-LRTP	COMMENTS				
Y/N	The LRTP will be amended to advance the ROW and Construction phases of the Krome South project in the 2035 LRTP				
PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP \$	TIP/STIP FY	COMMENTS
PE (Final Design)	Yes	Yes	280k	2014-2015	
R/W	Yes	Yes	5.2M 4.5M	2016-2017 >2017	
Construction	Yes	Yes	\$23.9M	>2017	

FDOT Preparer's Name: Vilma Croft, PE

Date: 6/20/2013 Phone #: 305-470-5400

Preparer's Signature: 

Email: vilma.croft@dot.state.fl.us

\*Attach: LRTP, TIP, STIP pages



**MPO RESOLUTION #25-13****RESOLUTION APPROVING AN AMENDMENT TO THE 2035 LONG RANGE TRANSPORTATION PLAN (LRTP) TO ADVANCE FROM PRIORITIES III AND IV TO PRIORITIES II AND III OF THE PLAN THE RIGHT-OF-WAY AND CONSTRUCTION PHASES OF THE KROME AVENUE**

**WHEREAS**, the Interlocal Agreement creating and establishing the Metropolitan Planning Organization (MPO) for the Miami Urbanized Area requires that the MPO provide a structure to evaluate the adequacy of the transportation planning and programming process; and

**WHEREAS**, the Transportation Planning Council (TPC) has been established and charged with the responsibility and duty of fulfilling the aforementioned functions; and

**WHEREAS**, the TPC has reviewed the amendment to the 2035 LRTP, made a part hereof, and finds it consistent with the goals and objectives of the Transportation Plan for the Miami Urbanized Area,

**NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE METROPOLITAN PLANNING ORGANIZATION FOR THE MIAMI URBANIZED AREA**, that the attached amendment to the 2035 Long Range Transportation Plan (LRTP) to advance from Priorities III and IV to Priorities II and III of the Plan the right-of-way and construction phases of the Krome Avenue Reconstruction Project Segments is hereby approved.

The adoption of the foregoing resolution was moved by Board Member Lynda Bell. The motion was seconded by Board Member Dennis C. Moss, and upon being put to a vote, the vote was as follows:

**Chairwoman** Rebeca Sosa-Aye  
**Vice Chairman** Oliver G. Gilbert, III-Aye

Board Member Bruno A. Barreiro	-Aye	Board Member Sally A. Heyman	-Absent
Board Member Steven C. Bateman	-Absent	Board Member Barbara J. Jordan	-Aye
Board Member Lynda Bell	-Aye	Board Member Jean Monestime	-Aye
Board Member Esteban Bovo Jr.	-Aye	Board Member Dennis C. Moss	-Aye
Board Member Matti Herrera Bower	-Aye	Board Member Javier D. Souto	-Aye
Board Member Jose "Pepe" Diaz	-Absent	Board Member Francis Suarez	-Absent
Board Member Audrey M. Edmonson	-Absent	Board Member Xavier L. Suarez	-Absent
Board Member Maritza Gutierrez	-Aye	Board Member Lucie M. Tondreau	-Aye
Board Member Perla Tabares Hantman	-Aye	Board Member Juan C. Zapata	-Aye
Board Member Carlos Hernandez	-Absent		

The Chairperson thereupon declared the resolution duly passed and approved this 18<sup>th</sup> day of July, 2013.

**METROPOLITAN PLANNING ORGANIZATION**  
**M.P.O.**

By Zainab Salim  
 Zainab Salim, Clerk  
 MPO Secretariat



**Request for FY 2035 LRTP Amendment  
to Advance Three Project Segment  
for SR 997/Krome Avenue  
From SW 296 Street to SW 136 Street**



*Florida Department of Transportation*

BUCK SCOTT  
GOVERNOR

(600 NW 111 Avenue  
Miami, Florida 33172-5800)

ANANTH PRASAD, P.E.  
SECRETARY

June 25, 2013

Mrs. Irma San Roman, Interim Director,  
Miami-Dade Metropolitan Planning Organization  
111 Northwest 1st Street, Suite 920  
Miami, Florida 33128

**Subject: Amendment to FY 2035 Long Range Transportation Plan (LRTP) to Advance Three SR 997/Krome Avenue Reconstruction Project Segments**

Dear Mrs. San Roman,

The Department requests an amendment to the adopted 2035 LRTP to advance the SR 997/Krome Avenue Reconstruction projects which extend from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street. The project is currently listed in Table 4-10 of the 2035 LRTP as one segment, from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street as a Priority I for design, Priority III and IV for right-of-way and Priority IV for construction.

The PD&E project extending from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street has been divided into three project segments: SW 296<sup>th</sup> Street to SW 232<sup>nd</sup> Street; SW 232<sup>nd</sup> Street to SW 184<sup>th</sup> Street; and SW 184<sup>th</sup> Street to SW 136<sup>th</sup> Street. These project segments will address safety deficiencies and provide additional capacity to accommodate future travel demand, and address design deficiencies along the Krome Avenue corridor.

The three project segments are listed in the current FY 2013 Transportation Improvement Program (TIP) with funding for design and right-of-way. The construction phases are beyond the 5-year time period of the TIP (see table below).



FM Number	PHAS E	FISCAL YEAR				
		2013- 2014	2014- 2015	2015-2016	2016-2017	>2017
<b>427369- 1</b> SW 296 <sup>th</sup> Street to SW 232 <sup>nd</sup> Street	Design	\$130,000	\$150,000			
	R/W				\$17,055,000	\$23,472,000
	Constr.					\$36,264,000
<b>427369-2</b> SW 232 <sup>nd</sup> Street to SW 184 <sup>th</sup> Street	Design	\$150,000	\$200,000			
	R/W			\$2,879,000	\$25,319,000	\$642,000
	Constr.					\$23,133,000
FM Number	PHAS E	FISCAL YEAR				
		2013- 2014	2014- 2015	2015-2016	2016- 2017	>2017
<b>427369- 3</b> SW 184 <sup>th</sup> Street to SW 136 <sup>th</sup> Street	Design		\$280,000			
	R/W				\$5,191,000	\$4,524,000
	Constr.					\$23,910,000
<b>Total Cost for All Segments &amp; Phases</b>						<b>\$163,299,000</b>

Funding for these project segments is identified in the Department updated Strategic Intermodal System (SIS) plan. The SIS Work Program is a statewide needs based funding plan. In fiscal year 2013, many projects were advanced statewide into the Department's Tentative Work Program from the SIS 2<sup>nd</sup> Five Year Plan. These projects were able to be advanced due to a number of factors including statewide bid savings, reduction of cost estimates and reduction in the overall SIS contingency levels. As a result, the three segments of SR 997/Krome Avenue were able to be advanced into fiscal year 2022 of the SIS 2<sup>nd</sup> Five Year Plan. These segments of SR 997/Krome Avenue were selected for advancement based upon the demonstrated need for increased safety and mobility on an SIS designated facility.

Approval of the LRTP amendment will advance the project segments to Priority II for right-of-way and to Priority III for construction. It will also reconcile the LRTP with the current TIP and allow the Department to fulfill all necessary federal requirements. No other projects will be negatively affected by this action. The requested change to the LRTP and the current FY 2013 TIP pages for the project segments are attached.

Mrs. San Roman  
LRTP Amendment SR 997/Krome Ave  
June 24, 2013  
Page 3

Sincerely,



Harold Desdunes, P.E.  
District Director of Transportation Development

Attachments

cc LeeAnn Jacobs, AICP, Federal Highway Administration  
Gus Pego, P.E., Florida Department of Transportation  
Debora Rivera, P.E., Florida Department of Transportation  
Carl Filer, P.E., Florida Department of Transportation  
Aileen Bouclé, AICP, Florida Department of Transportation  
Linda Glass Johnson, Florida Department of Transportation  
Dat Huynh, P.E., Florida Department of Transportation

Miami-Dade County  
Metropolitan Planning Organization (MPO)



## LRTP AMENDMENT FORM

Date Submitted: 06/20/2013 Submitted by: Harold Desdunes

Project Current LRTP Priority: III & IV Origin of Request: FDOT

Project Title: SR 997/Krome Avenue

Project Estimated Cost: \$163,299,000.00

Amendment Proposed: Advanced Project segments to priority II for right-of-way and Priority III for Construction.

Change to Existing LRTP Project: Yes Addition of New LRTP Project: No

### PROJECT AMENDMENT:

Type of Amendment	Funding	X	Time Schedule	X
	Funding Level		Scope of Work	

Amendment Description (brief): Amend 2035 LRTP to advance the Krome Avenue Reconstruction Project which extend from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street.

Justification for the Amendment: These project segments will address safety deficiencies and provide additional capacity to accommodate future travel demand, and address design deficiencies along Krome Avenue corridor. Funding for this project is identified in the Department's updated Strategic Intermodal System (SIS) plan.

Requested amendment affect other projects	Yes		If yes...	Local	
	No	X		State	

Please, indicate affected projects:	1	
2	3	

Project has been previously amended	Yes		If yes...	Date	
	No	X		MPO Res. #	

Contact Person:	Harold Desdunes, P.E.	Title	Director of Project Development
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Phone #:	305-470-5464	Fax #:	305-470-5610	e-mail:	Harold.desdunes@dot.s
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**MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION**  
**2035 Long-Range Transportation Plan (LRTP)**

<b><u>Project Before Amendment</u></b>						
<b>L RTP Page Reference</b>	<b>Facility/Corridor</b>	<b>From</b>	<b>To</b>	<b>Phase</b>	<b>Funding Priority</b>	<b>Description/Comments</b>
4-36	SR 997/Krome Avenue	SW 296th Street	SW 136th Street	Planning & Design, Right of Way and Construction	Priority I, III & IV	Widen to 4 lanes (2 to 4)
<b><u>Project After Amendment</u></b>						
<b>L RTP Page Reference</b>	<b>Facility/Corridor</b>	<b>From</b>	<b>To</b>	<b>Phase</b>	<b>Funding Priority</b>	<b>Description/Comments</b>
4-36	<b>FM 427369-1</b> SR 997/Krome Avenue	SW 296th Street	SW 232nd Street	Right of Way & Construction	Priority II and III	Right of Way Priority II and Construction Priority III.
4-36	<b>FM 427369-2</b> SR 997/Krome Avenue	SW 232nd Street	SW 184th Street	Right of Way & Construction	Priority II and III	Right of Way Priority II and Construction Priority III.
4-36	<b>FM 427369-3</b> SR 997/Krome Avenue	SW 184th Street	SW 136th Street	Right of Way & Construction	Priority II and III	Right of Way Priority II and Construction Priority III.

FLORIDA DEPARTMENT OF TRANSPORTATION  
OFFICE OF WORK PROGRAM  
STIP REPORT

DATE RUN: 11/06/2012  
TIME RUN: 14.48.14  
MBRSTIP-1

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ITEM NUMBER: 249614 4 PROJECT DESCRIPTION: SR 997/KROME AVENUE FROM SW 296 STREET TO SW 136 STREET \*SIS\*  
DISTRICT: 06 COUNTY: MIAMI-DADE TYPE OF WORK: PD&E/EMO STUDY  
ROADWAY ID: 87150000 PROJECT LENGTH: 10.068MI LANES EXIST/IMPROVED/ADDED: 2/ 2/ 0

FUND	LESS					GREATER	
CODE	THAN	2013	2014	2015	2016	THAN	ALL
	2013					2016	YEARS

FEDERAL PROJECT NUMBER: <N/A>

PHASE: Preliminary Engineering / RESPONSIBLE AGENCY: Managed by FDOT							
DDR	1,632,211	0	0	0	0	0	1,632,211
DIH	283,324	6,093	0	0	0	0	289,417
DS	180,397	0	0	0	0	0	180,397
TOTAL <N/A>	2,095,932	6,093	0	0	0	0	2,102,025
TOTAL 249614 4	2,095,932	6,093	0	0	0	0	2,102,025

ITEM NUMBER: 249614 7 PROJECT DESCRIPTION: SR 997/KROME AVENUE FROM S.W. 136TH STREET TO SR 94/KENDALL DRIVE \*SIS\*  
DISTRICT: 06 COUNTY: MIAMI-DADE TYPE OF WORK: ADD LANES & RECONSTRUCT  
ROADWAY ID: 87150000 PROJECT LENGTH: 3.536MI LANES EXIST/IMPROVED/ADDED: 2/ 2/ 2

FUND	LESS					GREATER	
CODE	THAN	2013	2014	2015	2016	THAN	ALL
	2013					2016	YEARS

FEDERAL PROJECT NUMBER: <N/A>

PHASE: Preliminary Engineering / RESPONSIBLE AGENCY: Managed by FDOT							
DDR	124,933	0	0	0	0	0	124,933
DIH	88,026	0	0	0	0	0	88,026
DS	348,310	0	0	0	0	0	348,310
PHASE: Right of Way / RESPONSIBLE AGENCY: Managed by FDOT							
ACEN	0	3,455,250	0	0	0	0	3,455,250
DIH	0	220,000	0	0	0	0	220,000
PHASE: Railroad and Utilities / RESPONSIBLE AGENCY: Managed by FDOT							
ACNH	0	0	0	0	0	100,000	100,000
PHASE: Construction / RESPONSIBLE AGENCY: Managed by FDOT							
ACNH	0	0	0	0	0	32,532,386	32,532,386
DDR	0	0	0	0	0	117,600	117,600

FLORIDA DEPARTMENT OF TRANSPORTATION  
OFFICE OF WORK PROGRAM  
STIP REPORT

DATE RUN: 11/06/2012  
TIME RUN: 14.48.14  
MBRSTIP-1

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HIGHWAYS

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ITEM NUMBER: 427032 1 PROJECT DESCRIPTION: SR 94/SW 88 STREET AT SW 142 AVENUE INTERSECTION IMPROVEMENT \*NON-SIS\*  
DISTRICT: 06 COUNTY: MIAMI-DADE TYPE OF WORK: INTERSECTION IMPROVEMENT  
ROADWAY ID: 87001000 PROJECT LENGTH: .142MI LANES EXIST/IMPROVED/ADDED: 6/ 6/ 0

FUND CODE	LESS THAN 2013	2013	2014	2015	2016	GREATER THAN 2016	ALL YEARS
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FEDERAL PROJECT NUMBER: <N/A>

PHASE: Preliminary Engineering / RESPONSIBLE AGENCY: Managed by FDOT

DIH	48,132	0	0	0	0	0	48,132
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PHASE: Construction / RESPONSIBLE AGENCY: Managed by FDOT

DIH	371	4,629	0	0	0	0	5,000
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TOTAL <N/A>	48,503	4,629	0	0	0	0	53,132
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FEDERAL PROJECT NUMBER: 0161 039 P

PHASE: Construction / RESPONSIBLE AGENCY: Managed by FDOT

DS	8,103	0	0	0	0	0	8,103
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HSP	158,274	0	0	0	0	0	158,274
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TOTAL 0161 039 P	166,377	0	0	0	0	0	166,377
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TOTAL 427032 1	214,880	4,629	0	0	0	0	219,509
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ITEM NUMBER: 427369 1 PROJECT DESCRIPTION: SR 997/KROME AVENUE FROM SW 296 STREET TO SW 232 STREET \*SIS\*  
DISTRICT: 06 COUNTY: MIAMI-DADE TYPE OF WORK: ADD LANES & RECONSTRUCT  
ROADWAY ID: 87150000 PROJECT LENGTH: 3.852MI LANES EXIST/IMPROVED/ADDED: 2/ 2/ 2

FUND CODE	LESS THAN 2013	2013	2014	2015	2016	GREATER THAN 2016	ALL YEARS
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FEDERAL PROJECT NUMBER: <N/A>

PHASE: Preliminary Engineering / RESPONSIBLE AGENCY: Managed by FDOT

DIH	0	0	0	100,000	0	0	100,000
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DS	0	0	130,000	50,000	0	0	180,000
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PHASE: Right of Way / RESPONSIBLE AGENCY: Managed by FDOT

DDR	0	0	0	0	0	36,152,901	36,152,901
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DIH	0	0	0	0	0	1,835,781	1,835,781
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DS	0	0	0	0	0	2,537,586	2,537,586
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FLORIDA DEPARTMENT OF TRANSPORTATION  
OFFICE OF WORK PROGRAM  
STIP REPORT

DATE RUN: 11/06/2012  
TIME RUN: 14.48.14  
MBRSTIP-1

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PHASE: Railroad and Utilities / RESPONSIBLE AGENCY: Managed by FDOT							
DDR	0	0	0	0	0	628,133	628,133
PHASE: Construction / RESPONSIBLE AGENCY: Managed by FDOT							
DDR	0	0	0	0	0	33,543,663	33,543,663
DIH	0	0	0	0	0	2,720,391	2,720,391
TOTAL <N/A>	0	0	130,000	150,000	0	77,418,455	77,698,455
TOTAL 427369 1	0	0	130,000	150,000	0	77,418,455	77,698,455

ITEM NUMBER: 427369 2 PROJECT DESCRIPTION: SR 997/KROME AVENUE FROM SW 232 STREET TO SW 184TH ST/EUREKA DR. \*SIS\*

DISTRICT: 06 COUNTY: MIAMI-DADE TYPE OF WORK: ADD LANES & RECONSTRUCT

ROADWAY ID: 87150000 PROJECT LENGTH: 3.017MI LANES EXIST/IMPROVED/ADDED: 2/ 2/ 2

FUND CODE	LESS THAN 2013	2013	2014	2015	2016	GREATER THAN 2016	ALL YEARS
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FEDERAL PROJECT NUMBER: <N/A>

PHASE: Preliminary Engineering / RESPONSIBLE AGENCY: Managed by FDOT							
DDR	0	0	29,704	0	0	0	29,704
DIH	0	0	100,000	0	0	0	100,000
DS	0	0	20,296	200,000	0	0	220,296
PHASE: Right of Way / RESPONSIBLE AGENCY: Managed by FDOT							
DDR	0	0	0	0	2,329,939	24,639,963	26,969,902
DIH	0	0	0	0	548,720	300,000	848,720
DS	0	0	0	0	0	1,020,848	1,020,848
PHASE: Railroad and Utilities / RESPONSIBLE AGENCY: Managed by FDOT							
DS	0	0	0	0	454,490	35,000	489,490
PHASE: Construction / RESPONSIBLE AGENCY: Managed by FDOT							
DIH	0	0	0	0	0	1,919,123	1,919,123
DS	0	0	0	0	0	21,214,235	21,214,235
TOTAL <N/A>	0	0	150,000	200,000	3,333,149	49,129,169	52,812,318
TOTAL 427369 2	0	0	150,000	200,000	3,333,149	49,129,169	52,812,318



FLORIDA DEPARTMENT OF TRANSPORTATION  
OFFICE OF WORK PROGRAM  
STIP REPORT

DATE RUN: 11/06/2012  
TIME RUN: 14.48.14  
MBRSTIP-1

=====

HIGHWAYS

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ITEM NUMBER: 427369 3 PROJECT DESCRIPTION: SR 997/KROME AVENUE FROM SW 184 STREET TO SW 136 STREET \*SIS\*  
DISTRICT: 06 COUNTY: MIAMI-DADE TYPE OF WORK: ADD LANES & RECONSTRUCT  
ROADWAY ID: 87150000 PROJECT LENGTH: 3.199MI LANES EXIST/IMPROVED/ADDED: 2/ 2/ 2

FUND CODE	LESS THAN 2013	2013	2014	2015	2016	GREATER THAN 2016	ALL YEARS
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FEDERAL PROJECT NUMBER: <N/A>

PHASE: Preliminary Engineering / RESPONSIBLE AGENCY: Managed by FDOT

DIH	0	0	0	100,000	0	0	100,000
DS	0	0	0	180,000	0	0	180,000

PHASE: Right of Way / RESPONSIBLE AGENCY: Managed by FDOT

DIH	0	0	0	0	0	655,636	655,636
DS	0	0	0	0	0	9,058,835	9,058,835

PHASE: Railroad and Utilities / RESPONSIBLE AGENCY: Managed by FDOT

DS	0	0	0	0	0	492,127	492,127
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PHASE: Construction / RESPONSIBLE AGENCY: Managed by FDOT

DIH	0	0	0	0	0	1,985,619	1,985,619
DS	0	0	0	0	0	21,924,194	21,924,194

TOTAL <N/A>	0	0	0	280,000	0	34,116,411	34,396,411
TOTAL 427369 3	0	0	0	280,000	0	34,116,411	34,396,411

ITEM NUMBER: 427419 1 PROJECT DESCRIPTION: SR 5/US-1 FROM SR 94/KENDALL DRIVE TO 37' NORTH OF SW 80 ST. \*NON-SIS\*  
DISTRICT: 06 COUNTY: MIAMI-DADE TYPE OF WORK: RESURFACING  
ROADWAY ID: 87030000 PROJECT LENGTH: .795MI LANES EXIST/IMPROVED/ADDED: 7/ 7/ 0

FUND CODE	LESS THAN 2013	2013	2014	2015	2016	GREATER THAN 2016	ALL YEARS
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FEDERAL PROJECT NUMBER: <N/A>

PHASE: Preliminary Engineering / RESPONSIBLE AGENCY: Managed by FDOT

DDR	211,442	0	0	0	0	0	211,442
DIH	32,911	0	0	0	0	0	32,911

PHASE: Railroad and Utilities / RESPONSIBLE AGENCY: Managed by FDOT

LF	2,080	1,660	0	0	0	0	3,740
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MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION  
TRANSPORTATION IMPROVEMENT PROGRAM  
PRIMARY STATE HIGHWAYS AND INTERMODAL



**HIGHWAYS**

MPO Project Num: **DT4273691**    Project Description: **SR 997/KROME AVENUE**    **FROM SW 296 STREET**    **TO SW 232 STREET**

LRTP Ref.: p. 4-36  
County: MIAMI-DADE  
Roadway ID: 150000  
Lanes Exist: 2  
Lanes Improved: 2  
Lanes Added: 2  
Project Length: 3.852  
District: 6

Type of Work: **ADD LANES & RECONSTRUCT**

RESPONSIBLE AGENCY: Managed by FDOT

		Proposed Funding (in \$000s)							
	Funding Source	<2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	>2017	All Years
PHASE : Preliminary Engineering	DIH	0	0	0	100	0	0	0	100
PHASE : Preliminary Engineering	DS	0	0	130	50	0	0	0	180
	Totals	0	0	130	150	0	0	0	280

RESPONSIBLE AGENCY: Managed by FDOT

PHASE : Railroad and Utilities	DDR	0	0	0	0	0	628	0	628
	Totals	0	0	0	0	0	628	0	628

RESPONSIBLE AGENCY: Managed by FDOT

PHASE : Right of Way	DS	0	0	0	0	0	1,538	1,000	2,538
PHASE : Right of Way	DIH	0	0	0	0	0	927	909	1,836
PHASE : Right of Way	DDR	0	0	0	0	0	14,590	21,563	36,153
	Totals	0	0	0	0	0	17,055	23,472	40,527

RESPONSIBLE AGENCY: Managed by FDOT

PHASE : Construction	DDR	0	0	0	0	0	0	33,544	33,544
PHASE : Construction	DIH	0	0	0	0	0	0	2,720	2,720
	Totals	0	0	0	0	0	0	36,264	36,264

MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION  
TRANSPORTATION IMPROVEMENT PROGRAM  
PRIMARY STATE HIGHWAYS AND INTERMODAL



**HIGHWAYS**

MPO Project Num: **DT4273691**  
 LRTP Ref.: **p. 4-36, C-35\***  
 County: **MIAMI-DADE**  
 Roadway ID: **87150000**  
 Lanes Exist: **2**  
 Lanes Improved: **2**  
 Lanes Added: **2**  
 Project Length: **3.852**  
 District: **6**

Project Description: **SR 997/KROME AVENUE**

**FROM SW 296 STREET**

**TO SW 232 STREET**

Type of Work: **ADD LANES & RECONSTRUCT**

SIS or Non-SIS: **SIS Project**

Funding Source	Proposed Funding (in \$000s)							
	<2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	>2017	All Years
Totals	0	0	0	0	0	0	36,264	36,264

RESPONSIBLE AGENCY: **Managed by FDOT**

\*C-35 refers to page from the 2035 LRTP Cost Feasible Project List, which can be found at <http://www.miamidade2035transportationplan.com/docs/Miami-Dade2035-FinancialResourcesReportAppB.pdf>

MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION  
TRANSPORTATION IMPROVEMENT PROGRAM  
PRIMARY STATE HIGHWAYS AND INTERMODAL



**HIGHWAYS**

MPO Project Num: **DT4273692** Project Description: **SR 997/KROME AVENUE FROM SW 232 STREET TO SW 184TH ST/EUREKA DR.**

LRTP Ref.: p. 4-36, C-35\*

County: MIAMI-DADE

Roadway ID: 87150000

Lanes Exist: 2

Lanes Improved: 2

Lanes Added: 2

Project Length: 3.017

District: 6

Type of Work: **ADD LANES & RECONSTRUCT**

SIS or Non-SIS: **SIS Project**

RESPONSIBLE AGENCY: **Managed by FDOT**

		Proposed Funding (in \$000s)							
	Funding Source	<2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	>2017	All Years
PHASE : Preliminary Engineering	DDR	0	0	30	0	0	0	0	30
PHASE : Preliminary Engineering	DIH	0	0	100	0	0	0	0	100
PHASE : Preliminary Engineering	DS	0	0	20	200	0	0	0	220
	Totals	0	0	150	200	0	0	0	350

RESPONSIBLE AGENCY: **Managed by FDOT**

PHASE : Railroad and Utilities	DS	0	0	0	0	454	0	35	489
	Totals	0	0	0	0	454	0	35	489

RESPONSIBLE AGENCY: **Managed by FDOT**

PHASE : Right of Way	DDR	0	0	0	0	2,330	24,640	0	26,970
PHASE : Right of Way	DIH	0	0	0	0	549	200	100	849
PHASE : Right of Way	DS	0	0	0	0	0	479	542	1,021
	Totals	0	0	0	0	2,879	25,319	642	28,840

PHASE : Construction	DS	0	0	0	0	0	0	21,214	21,214
PHASE : Construction	DIH	0	0	0	0	0	0	1,919	1,919

\*C-35 refers to page from the 2035 LRTP Cost Feasible Project List, which can be found at <http://www.miamidade2035transportationplan.com/docs/Miami-Dade2035-FinancialResourcesReportAppB.pdf>



MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION  
TRANSPORTATION IMPROVEMENT PROGRAM  
PRIMARY STATE HIGHWAYS AND INTERMODAL



HIGHWAYS

MPO Project Num: **DT4273692** Project Description: **SR 997/KROME AVENUE** **FROM SW 232 STREET** **TO SW 184TH ST/EUREKA DR.**

LRTP Ref.: **p. 4-36, C-35\***

County: **MIAMI-DADE**

Roadway ID: **87150000**

Lanes Exist: **2**

Lanes Improved: **2**

Lanes Added: **2**

Project Length: **3.017**

District: **6**

Type of Work: **ADD LANES & RECONSTRUCT**

SIS or Non-SIS: **SIS Project**

Funding Source	Proposed Funding (in \$000s)							
	<2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	>2017	All Years
Totals	0	0	0	0	0	0	23,133	23,133

RESPONSIBLE AGENCY: **Managed by FDOT**

\*C-35 refers to page from the 2035 LRTP Cost Feasible Project List, which can be found at <http://www.miamidade2035transportationplan.com/docs/Miami-Dade2035-FinancialResourcesReportAppB.pdf>

MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION  
TRANSPORTATION IMPROVEMENT PROGRAM  
PRIMARY STATE HIGHWAYS AND INTERMODAL



**HIGHWAYS**

MPO Project Num: **DT4273693**  
 LRTP Ref.: **p. 4-36, C-35\***  
 County: **MIAMI-DADE**  
 Roadway ID: **87150000**  
 Lanes Exist: **2**  
 Lanes Improved: **2**  
 Lanes Added: **2**  
 Project Length: **3.199**  
 District: **6**

Project Description: **SR 997/KROME AVENUE FROM SW 184 STREET TO SW 136 STREET**

Type of Work: **ADD LANES & RECONSTRUCT**      SIS or Non-SIS: **SIS Project**

RESPONSIBLE AGENCY: **Managed by FDOT**

		Proposed Funding (in \$000s)							
	Funding Source	<2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	>2017	All Years
PHASE : Preliminary Engineering	DS	0	0	0	180	0	0	0	180
PHASE : Preliminary Engineering	DIH	0	0	0	100	0	0	0	100
	Totals	0	0	0	280	0	0	0	280

RESPONSIBLE AGENCY: **Managed by FDOT**

PHASE : Railroad and Utilities	DS	0	0	0	0	0	492	0	492
	Totals	0	0	0	0	0	492	0	492

RESPONSIBLE AGENCY: **Managed by FDOT**

PHASE : Right of Way	DIH	0	0	0	0	0	456	200	656
PHASE : Right of Way	DS	0	0	0	0	0	4,735	4,324	9,059
	Totals	0	0	0	0	0	5,191	4,524	9,715

RESPONSIBLE AGENCY: **Managed by FDOT**

PHASE : Construction	DIH	0	0	0	0	0	0	1,986	1,986
PHASE : Construction	DS	0	0	0	0	0	0	21,924	21,924
	Totals	0	0	0	0	0	0	23,910	23,910

\*C-35 refers to page from the 2035 LRTP Cost Feasible Project List, which can be found at <http://www.miamidade2035transportationplan.com/docs/Miami-Dade2035-FinancialResourcesReportAppB.pdf>



## **APPENDIX F**

### *Design Exception*

To: Harold Desdunes, P.E. , District Design Engineer

Date: June 20, 2005

Subject: **Design Exception**  
Financial Project ID: 249614-4-22-01  
County Section Number: 87150 State Road Number: SR-997  
Federal Aid Number: TBD  
Project Description: SR-997 (Krome Avenue) PD&E Study from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street  
Begin Project MP: 3.827 End Project MP: 13.895  
New Construction: Yes RRR: No  
Plans Phase: PD&E X I II III IV  
Federal Oversight: Yes X No   

A design exception is requested for the following element(s):

☒ **Design Speed**      ☐ Lane Widths      ☐ Shoulder Widths      ☐ Bridge Widths  
☐ Structural Capacity      ☐ Vertical Clearance      ☐ Grades      ☐ Cross Slope  
☐ Superelevation      ☐ Horizontal Alignment      ☐ Vertical Alignment      ☐ Stopping Sight Distance  
☐ Horizontal Clearance

---

### **Description of the Design Exception / Proposed Criteria**

The Environmental Management Office is requesting a design exception for a reduction in the required design speed from 65 mph, as called for in the Plans Preparation Manual, and 60 mph as called for in the 2001 AASHTO Guidelines, to 55 mph. In support of this request, we provide the following information.

#### **1.0 DESCRIPTION**

##### **a. Project Description**

The FDOT is conducting a PD&E Study for the reconstruction of Krome Avenue from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street. The project limits run south-north approximately 10 miles and is located in Sections 12, 7, 1 and 6; Township 57S; Sections 36, 31, 25, 30, 24, 19, 13, 18, 12, 7, 1 and 6; Township 56S; Sections 36, 31, 25, 30, 24, 19, 13 and 18; Township 55S; Ranges 38E and 39E (*See Figure 1-Location Map*). The section of Krome Avenue from the intersection of SW 136<sup>th</sup> Street to the intersection of Okeechobee Road in Miami-Dade County is the subject of another PD&E Study that extends approximately 23 miles.

Krome Avenue is a major north-south rural principal arterial that extends from SR-5/US 1 to SR-25/US 27/Okeechobee Road in Miami-Dade County. The typical section, within the study limits, varies slightly consisting primarily of two lanes, varying in width from 10.5 feet to 12 feet; paved shoulders ranging from no shoulder to five 5 feet wide; and roadside swales. The project proposes to develop and analyze alternatives including a no build alternative, a Transportation System Management (TSM) alternative, and several build alternatives consisting of two, three and four-lane typical sections. All alternatives will look at preserving the rural character of the corridor while providing safety and operational enhancements. The Krome Avenue corridor has been the subject of extensive study and discussion for the past two decades.



The existing design speed is 55 mph and the speed limit is posted at 45 mph along the project study limits. The access management classification within the study limits is class (2) Restrictive with Service Roads.

Krome Avenue is part of the Florida Intrastate Highway System (FIHS). It is an important north/south arterial within Miami-Dade County as well as one of the only three evacuation routes serving the Florida Keys and South Miami-Dade County.

### **b. Design Criteria**

According to Volume I, Chapter 1 of the Plans Preparation Manual, Table 1.9.2, it is the Department's policy to provide a minimum design speed of 65 mph for a Florida Intrastate Highway System (FIHS) facility (*See Appendix A-Standards*).

According to Volume I, Chapter 23 of the Plans Preparation Manual, Table 23.4.1, it is the 2001 AASHTO (page 448) policy to provide a minimum design speed of 60 mph for a rural arterial facility (*See Appendix A-Standards*).

### **Justification**

The following are the reasons for applying for a design speed design exception:

- Controversy of the project – The Krome Avenue corridor has a history of controversy beginning in the mid-1980's when various project phases to four-lane Krome Avenue were listed in the work program. As part the Transportation Improvement Plan (TIP), the project was later adopted by the Miami-Dade Planning Organization (MPO). This action set off a string of controversial meeting and hearings regarding the consistency of the TIP, the Miami-Dade County Comprehensive Development Master Plan (CDMP), and the local government comprehensive plans. As a response to the controversy, the MPO modified their TIP to eliminate the four- laning of the Krome Avenue and in 1997 the FDOT conducted a planning study called the Krome Avenue Action Plan. From this study, a series of alternatives were developed to preserve Krome Avenue as a two (2)-lane roadway. During the Action Plan meetings, many of the Redland residents were concerned about preserving the rural/agricultural characteristics of the are and about the urbanization that had already occurred. The result of the study was that no consensus and public acceptance for any improvement alternative was ever obtained. For instance some citizens were opposed to any additional two-lane improvements because they felt that Korme Avenue was already improved and additional improvements would add traffic to the area.
- Due to the high-level of controversy associated with the proposed project, the anticipated Class of Action for this segment of Krome Avenue is an Environmental Impact Statement (EIS). An EIS is the highest level of documentation required by the National Environmental Policy Act (NEPA).
- Right of Way (R/W) requirements – By lowering the design speed, the proposed typical section will need less R/W acquisition due a lesser recoverable terrain width (clear zone) requirement.

- Context Sensitivity of the area to community and business impacts – The Krome Avenue corridor represents a unique challenge in balancing the preservation of its rural character, while enhancing motorist and pedestrian’s safety along the corridor. There is a need of balancing the often-competing interests, between safety enhancements and rural preservation by the use of Context-Sensitive Design (CSD) principles that are consistent with FDOT’s policy regarding Transportation Design for Livable Communities (TDLC). Context-Sensitive Design considers the environmental, scenic, aesthetics, historic and community access for other modes of transportation such as bicycling and walking and the natural resource value of the corridor, while providing for a safe and efficient roadway design. The preservation of the rural character is imperative.
- The characteristics of the area are changing from a rural community to an urban transitional area. Some of the existing land uses are currently in the process of change due to urban sprawl – from agriculture to residential/ commercial. The Miami-Dade County Adopted 2005 and 2015 Land Use Plan shows that the project area is expected to continue its current trend, changing from agriculture to residential /commercial land uses. The development and evaluation of the proposed alternatives must be consistent with the current trend ,safety, mobility and community values.
- The proposed use of CSD at the intersections to minimize R/W acquisition and business impacts.
- Avoidance and minimization of social impacts will be a key issue for the successful completion of the project. Existing land uses along the corridor are predominantly agricultural and low-density residential. Community cohesion is an area of concern because of the potential for right of way impacts to businesses and residential areas along the corridor.

### **c. Compatibility with Adjacent Sections**

The requested design exception is compatible with the design and operations of the adjacent sections as the posted speed will remain the same along the corridor.

## **2.0 OPERATIONAL IMPACTS**

### **a. Amount and Character of Traffic Using the Facility**

The existing daily traffic is approximately 15,000 vehicles per day with a projected 2030 traffic that will range between 25,000 to 55,000 vehicles per day, depending on the proposed alternative (2-lane, 2-lane enhanced or 4-lane). Traffic is a mixture of local, short distance trips and thru traffic (longer trips). The truck percentage is approximately between 8-10% during peak hours and around 17% daily.

### **b. Effect on Capacity of the Deviation**

The proposed design exception would not have any negative effect in the capacity of the facility. The capacity will be driven by the number of signals along the corridor (both existing and future). Please note that even the uninterrupted flow facilities generalized volumes listed in the FDOT LOS Handbook assume a design speed of 50 mph for this type of facilities (*See Appendix A-Standards*).

The existing design speed is 55 mph and the speed limit is posted at 45 mph along the project study limits. With a proposed reduction of the design speed to 55 mph, the posted speed limit will remain the same, 45 mph.

### 3.0 SAFETY IMPACTS

#### a. Crash History and Analysis

The most recent five (5) year Crash History and Analysis is provided in Appendix B. The crash locations are identified on the enclosed schematic diagrams (Figure 2A and 2B).

#### b. Impacts Associated with Proposed Criteria

The design exception is not a factor in the crash history because the roadway is undivided. The proposed improvements will help reduce the head on collisions along the corridor due to the placement of a median. The proposed improvements with the design exception are better than the existing, and the associated potential difference in crashes associated with the reduced design speed cannot be quantified.

### 4.0 BENEFIT/COST ANALYSIS

The Benefit Cost (B/C) ratio for this request can not be calculated. The only applicable cost is the R/W acquisition estimate. The maintenance cost will be approximately the same for both criteria. The crash reduction cost will not be applicable to the B/C ratio because a lower design speed cannot be quantified or associated with traffic accidents along this corridor. Five alternatives (*See Appendix C-Proposed Alternatives*) were considered; 2-lane enhanced, 3-lane, 4-lane with a depressed median (30' & 40' wide median) and 4-lane with a raised median (30' wide median).

**Table 1.0**

<b>Costs</b>	<b>Design Criteria</b>	<b>Proposed Criteria</b>	<b>Savings</b>
<b>Construction</b>	Same	Same	\$0
<b>R/W</b>	36-foot Recoverable Terrain	30-foot Recoverable Terrain (12 feet less of R/W acquisition)	\$9,504,000
<b>Crash Reduction</b>	N/A	N/A	N/A
<b>Maintenance</b>	Same	Same	\$0
<b>Total Savings</b>	\$9,504,000		

A B/C ratio will not be able to be calculated because the only savings (R/W acquisition) is not related to an annual cost. Business damages and relocations are not calculated into the savings, making the R/W savings even greater. The R/W cost (\$15 / square foot) was based on the Krome Avenue intersection improvements project completed as Design-Build during the year 2004.

### 5.0 CONCLUSIONS AND RECOMMENDATIONS

#### a. Other Deviations

There is no other design exception presented along the roadway project limits. Due to the existing R/W constraints within the area, a Design Variation will be presented and documented for the required border width and median width of the proposed typical

sections. The proposed border and median widths will minimize R/W acquisition and business damages and will meet AASHTO requirements, but not FDOT PPM requirements. Therefore, a Design Variation will be requested along the roadway project limits.

#### **b. Safety Measures Considered**

The proposed improvements will increase roadway capacity, reduce congestion and increase public safety by widening the existing 2-lane undivided rural typical section to a multi-lane facility or to enhance the existing 2-lane typical section along Krome Avenue.

#### **c. Course of Action**

While the FDOT and AASHTO design criterias for design speed are not met, the proposed design speed (55 mph) will provide benefits to the Department, local residences and businesses and result in a safer roadway. The purpose of this study is to provide the necessary documentation to establish design requirements and define the conceptual design for improvements through the Krome Avenue South corridor. This study will document the existing conditions information of the facility focusing on the engineering/geometric characteristics, operational elements, and the socio-economic/environmental features to address the various deficiencies and impacts associated with the recommended improvements. A reasonable and feasible alternative will then be recommended for final design and construction.

### **6.0 BACKGROUND AND SUPPORT INFORMATION**

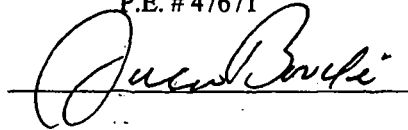
Appendix A – Standards

Appendix B – Crash History and Analysis

Appendix C – Proposed Typical Sections

Prepared and  
Recommended By:

Julio Boucle, P.E.  
Responsible Professional Engineer  
P.E. # 47671



Date: 6.30.05

URS Corporation  
Consultant Firm

Recommended and  
Approved by:

Harold Desdunes, P.E.  
District Design Engineer

Date: \_\_\_\_\_

Concurrence: \_\_\_\_\_

State Roadway Design Engineer

Date: \_\_\_\_\_

Concurrence: N/A

State Structures Design Engineer

Date: N/A

Approved by: \_\_\_\_\_

FHWA Division Administrator

Date: \_\_\_\_\_

Concurrence: \_\_\_\_\_

State Highway Engineer

Date: \_\_\_\_\_

# **Appendix A**

## **(Standards)**

**Table 1.9.1 Design Speed  
State Highway System - Non-FIHS Facilities**

Facility		Design Speed (mph)
Freeways	Rural	70
	Urban	50 - 70
Arterials	Rural	55 - 70
	Urban	40 - 60
Collectors	Rural	55 - 65
	Urban	35 - 50
TDLC		30 - 40

**Table 1.9.2 Minimum Design Speed  
Florida Intrastate Highway System Facilities**

Facility		Minimum Design Speed (mph)
Interstate and Freeways	Rural and Urban*	70
	Urbanized*	60
Arterials	Rural*	65
	Urban and Urbanized*	50

**Note:** Design Speeds for FIHS facilities less than the above minimums shall be approved by the State Highway Engineer, following a review by the State Transportation Planner, in accordance with the *FIHS Procedure (Topic No. 525-030-250)*.

\*Terms based on definitions contained in *FIHS Procedure (Topic No. 525-030-250)*.

**Table 23.4.1 AASHTO Design Speed (Minimum)**

Type Facility	Other Factors	Design Speed (mph)	AASHTO
Freeways	Urban	50	pg. 507
	Rural	70	
Urban Arterials	Major	30	pg. 72
	Other	30	
Rural Arterials	Rolling terrain	50	pg. 448
	Level terrain	60	
Urban Collectors		30	pg. 434
Rural Collectors	Level ADT < 400	40	pg. 426, Exh. 6-2
	ADT 400 - 2000	50	
	ADT > 2000	60	
	Rolling ADT < 400	30	
	ADT 400 - 2000	40	
	ADT > 2000	50	
CBD	Major or Minor	30	pg. 434
Ramps	Highway Design Speeds (mph)		pg. 830
	30	15	
	35	18	
	40	20	
	45	23	
	50	25	
	55	28	
	60	30	
	65	30	
	70	35	
Loop Ramps	150 ft. radius	25	pg. 829
Connections	Direct	40	pg. 829
	Semi-Direct	30	



Two-lane arterials generally have all-weather surfaces and are marked and signed in accordance with the current edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) (1).

## General Design Considerations

### Design Speed

Rural arterials, excepting freeways, should be designed for speeds of 60 to 120 km/h [40 to 75 mph] depending on terrain, driver expectancy and, in the case of reconstruction projects, the alignment of the existing facility. Design speeds in the higher range—100 to 120 km/h [60 to 75 mph]—are normally used in level terrain, design speeds in the midrange—80 to 100 km/h [50 to 60 mph]—are normally used in rolling terrain, and design speeds in the lower range—60 to 80 km/h [40 to 50 mph]—are used in mountainous terrain. Where a lower design speed is used, refer to Chapters 2, 3, and 4 to select appropriate design features.

### Design Traffic Volume

Before an existing rural arterial is improved or a new rural arterial is constructed, the design traffic volume should be determined. The first step in determining the design traffic volume is to determine the current average daily traffic (ADT) volume for the roadway; in the case of new construction, the ADT can be estimated. These ADT values should then be projected to the design year, normally 20 years into the future. The design of low-volume rural arterials is normally based on ADT values alone because neither capacity nor intersection operations typically govern the overall operation. Such roadways normally provide free flow under all conditions. By contrast, it is usually appropriate to design high-volume rural arterials using an hourly volume as the design traffic volume. The design hourly volume (DHV) that should generally be used in design is the 30th highest hourly volume of the year, abbreviated as 30 HV, which is typically about 15 percent of the ADT on rural roads. For further information on the determination of design traffic volumes, see the section on “Traffic Characteristics” in Chapter 2.

### Levels of Service

Procedures for estimating the traffic operational performance of particular highway designs are presented in the *Highway Capacity Manual* (HCM) (2), which also presents a thorough discussion of the level-of-service concept. Although the choice of an appropriate design level of service is left to the highway agency, designers should strive to provide the highest level of service practical and consistent with anticipated conditions. Level-of-service characteristics are discussed in Chapter 2 and summarized in Exhibit 2-31. For acceptable degrees of congestion, rural arterials and their auxiliary facilities (i.e., turning lanes, passing sections, weaving sections, intersections, and interchanges) should generally be designed for level-of-service B, except in mountainous areas where level-of-service C is acceptable.

**TABLE 4 - 1**  
**GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S**  
**URBANIZED AREAS\***

UNINTERRUPTED FLOW HIGHWAYS						FREEWAYS					
Level of Service						Level of Service					
Lanes Divided	A	B	C	D	E	Lanes	A	B	C	D	E
2 Undivided	2,000	7,000	13,800	19,600	27,000	4	23,800	39,600	55,200	67,100	74,600
4 Divided	20,400	33,000	47,800	61,800	70,200	6	36,900	61,100	85,300	103,600	115,300
6 Divided	30,500	49,500	71,600	92,700	105,400	8	49,900	82,700	115,300	140,200	156,000
<b>STATE TWO-WAY ARTERIALS</b>						10	63,000	104,200	145,500	176,900	196,400
Class I (>0.0 to 1.99 signalized intersections per mile)						12	75,900	125,800	175,500	213,500	237,100
Level of Service						Interchange spacing < 2 mi. apart					
Lanes Divided	A	B	C	D	E	Level of Service					
2 Undivided	**	4,200	13,800	16,400	16,900	Lanes	A	B	C	D	E
4 Divided	4,800	29,300	34,700	35,700	***	4	22,000	36,000	52,000	67,200	76,500
6 Divided	7,300	44,700	52,100	53,500	***	6	34,800	56,500	81,700	105,800	120,200
8 Divided	9,400	58,000	66,100	67,800	***	8	47,500	77,000	111,400	144,300	163,900
Class II (2.00 to 4.50 signalized intersections per mile)						10	60,200	97,500	141,200	182,600	207,600
Level of Service						12	72,900	118,100	170,900	221,100	251,200
Lanes Divided	A	B	C	D	E	<b>BICYCLE MODE</b>					
2 Undivided	**	1,900	11,200	15,400	16,300	(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)					
4 Divided	**	4,100	26,000	32,700	34,500	Paved Shoulder/ Bicycle Lane					
6 Divided	**	6,500	40,300	49,200	51,800	Level of Service					
8 Divided	**	8,500	53,300	63,800	67,000	Coverage	A	B	C	D	E
Class III (more than 4.5 signalized intersections per mile and not within primary city central business district of an urbanized area over 750,000)						0-49%	**	**	3,200	13,800	>13,800
Level of Service						50-84%	**	2,500	4,100	>4,100	***
Lanes Divided	A	B	C	D	E	85-100%	3,100	7,200	>7,200	***	***
2 Undivided	**	**	5,300	12,600	15,500	<b>PEDESTRIAN MODE</b>					
4 Divided	**	**	12,400	28,900	32,800	(Note: Level of service for the pedestrian mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)					
6 Divided	**	**	19,500	44,700	49,300	Level of Service					
8 Divided	**	**	25,800	58,700	63,800	Sidewalk Coverage	A	B	C	D	E
Class IV (more than 4.5 signalized intersections per mile and within primary city central business district of an urbanized area over 750,000)						0-49%	**	**	**	6,400	15,500
Level of Service						50-84%	**	**	**	9,900	19,000
Lanes Divided	A	B	C	D	E	85-100%	**	2,200	11,300	>11,300	***
2 Undivided	**	**	5,200	13,700	15,000	<b>BUS MODE (Scheduled Fixed Route)</b>					
4 Divided	**	**	12,300	30,300	31,700	(Buses per hour)					
6 Divided	**	**	19,100	45,800	47,600	(Note: Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.)					
8 Divided	**	**	25,900	59,900	62,200	Level of Service					
<b>NON-STATE ROADWAYS</b>						Sidewalk Coverage	A	B	C	D	E
Major City/County Roadways						0-84%	**	>5	≥4	≥3	≥2
Level of Service						85-100%	>6	>4	≥3	≥2	≥1
Lanes Divided	A	B	C	D	E	<b>ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS</b>					
2 Undivided	**	**	9,100	14,600	15,600	DIVIDED/UNDIVIDED					
4 Divided	**	**	21,400	31,100	32,900	(alter corresponding volume by the indicated percent)					
6 Divided	**	**	33,400	46,800	49,300	Level of Service					
Other Signalized Roadways						Lanes	Median	Left Turns	Lanes	Adjustment Factors	
(signalized intersection analysis)						2 Divided		Yes		+5%	
Level of Service						2 Undivided		No		-20%	
Lanes Divided	A	B	C	D	E	Multi Undivided		Yes		-5%	
2 Undivided	**	**	4,800	10,000	12,600	Multi Undivided		No		-25%	
4 Divided	**	**	11,100	21,700	25,200	<b>ONE-WAY FACILITIES</b>					
Source: Florida Department of Transportation						Decrease corresponding two-directional volumes in this table by 40% to obtain the equivalent one directional volume for one-way facilities.					
Systems Planning Office											
605 Suwannee Street, MS 19											
Tallahassee, FL 32399-0450											
http://www11.myflorida.com/planning/systems/sm/los/default.htm											

\*This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are two-way annual average daily volumes (based on K<sub>100</sub> factors) for levels of service and are for the automobile/truck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. The table's input value defaults and level of service criteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

\*\*Cannot be achieved using table input value defaults.

\*\*\*Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

**TABLE 4 - 1 (continued)**  
**GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S**  
**Urbanized Areas**  
**INPUT VALUE ASSUMPTIONS**

ROADWAY CHARACTERISTICS	UNINTERRUPTED FLOW FACILITIES			
	Freeways		Highways	
	Class III	Class IV		
Number of through lanes	4 - 12	4 - 12	2	4 - 6
Posted speed (mph)	65	55	50	50
Free flow speed (mph)	70	60	55	55
Basic segment length (mi)	1.5	0		
Interchange spacing per mile	2.5	1		
Median (n,y)			n	y
Left turn lanes (n,y)			y	y
Terrain (r,l)	1	1	1	1
% no passing zone			80	
Passing lanes (n,y)			n	
<b>TRAFFIC CHARACTERISTICS</b>				
Planning analysis hour factor (K)	0.097	0.093	0.095	0.095
Directional distribution factor (D)	0.55	0.55	0.55	0.55
Peak hour factor (PHF)	0.95	0.95	0.925	0.925
Base capacity (pcphpl)			1700	2100
Heavy vehicle percent	6.0	4.0	2.0	2.0
Local adjustment factor	0.98	1.00	1.0	1.0

	INTERRUPTED FLOW FACILITIES																		
ROADWAY CHARACTERISTICS	State Arterials												Non-State Roadways			Bicycle	Pedestrian	Bus	
	Class I			Class II			Class III			Class IV			Major City/County	Other Signalized	Class II	Class II			
Number of through lanes	2	4 - 6	8	2	4 - 6	8	2	4 - 6	8	2	4 - 6	8	2	4 - 6	2 - 4	4	4		
Posted speed (mph)	45	50	50	45	45	45	35	35	35	30	30	30	45	45		40	40		
Free flow speed (mph)	50	55	55	50	50	50	40	40	40	35	35	35	50	50		45	45		
Median type (n,r,t)	N	r	r	n	r	r	n	r	r	n	r	r	n	r		r	r		
Left turn lanes (n,y)	Y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y		
Paved shoulder/bicycle lane (n,y)																n,50%y	n		
Outside lane width (n,t,w)																t	t		
Pavement condition (u,t,d)																t			
Sidewalk (n,y)																	n,50%y		
Sidewalk/roadway separation (a,t,w)																	t		
Sidewalk/roadway protective barrier (n,y)																	n		
Obstacle to bus stop (n,y)																			
TRAFFIC CHARACTERISTICS																			
Planning analysis hour factor (K)	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095		
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55		
Peak hour factor (PHF)	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925		
Base saturation flow rate (pcphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Heavy vehicle percent	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	2.0	2.0		
Local adjustment factor	1.0	1.0	0.95	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92	0.90	0.98	0.98	0.95	0.98	0.98		
% turns from exclusive turn lanes	12	12	12	12	12	12	12	12	12	12	12	12	14	14	16	12	12		
Bus span of service																	15		
CONTROL CHARACTERISTICS																			
Signalized intersections per mile	1.5	1.0	1.0	3.0	3.0	3.0	5.0	5.0	5.0	8.0	8.0	8.0	3.0	3.0		3.0	3.0		
Arrival type (1-6)	3	3	3	4	4	4	4	4	4	4	4	4	4	4	3	4	4		
Signal type (a,s,f)	a	a	a	s	s	s	s	s	s	s	s	s	s	s	s	s	s		
Cycle length (C)	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120		
Effective green ratio (g/C)	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.31	0.44	0.44		

### LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways				Highways				State Two-Way Arterials				Non-State Roadways		Bicycle	Pedestrian	Bus
	Class III		Class IV		Two-Lane % FFS	Multilane		Class I ATS	Class II ATS	Class III ATS	Class IV ATS	Major City/County ATS	Other Signalized Control Delay	Score	Score	Buses per hr.	
	v/c	Density	v/c	Density		v/c	Density										
A	< 0.32	≤ 11	< 0.29	≤ 11	> 0.917	≤ 0.29	≤ 11	> 42 mph	> 35 mph	> 30 mph	> 25 mph	> 35 mph	≤ 10 sec	≤ 1.5	≤ 1.5	> 6	
B	< 0.53	≤ 18	< 0.47	≤ 18	> 0.833	≤ 0.47	≤ 18	> 34 mph	> 28 mph	> 24 mph	> 19 mph	> 28 mph	≤ 20 sec	≤ 2.5	≤ 2.5	> 4	
C	< 0.74	≤ 26	< 0.68	≤ 26	> 0.750	≤ 0.68	≤ 26	> 21 mph	> 22 mph	> 18 mph	> 13 mph	> 22 mph	≤ 35 sec	≤ 3.5	≤ 3.5	> 3	
D	< 0.90	≤ 35	< 0.88	≤ 35	> 0.667	≤ 0.88	≤ 35	> 21 mph	> 17 mph	> 14 mph	> 9 mph	> 17 mph	≤ 55 sec	≤ 4.5	≤ 4.5	> 2	
E	≤ 1.00	≤ 45	≤ 1.00	≤ 45	> 0.583	≤ 1.00	≤ 41	> 16 mph	> 13 mph	> 10 mph	> 7 mph	> 13 mph	≤ 80 sec	≤ 5.5	≤ 5.5	> 1	
F	> 1.00	> 45	> 1.00	> 45	≤ 0.583	> 1.00	> 41	≤ 16 mph	≤ 13 mph	≤ 10 mph	≤ 7 mph	≤ 13 mph	> 80 sec	> 5.5	> 5.5	≤ 1	

v/c = Demand to Capacity Ratio

% FFS = Percent Free Flow Speed

ATS = Average Travel Speed

02/22/02

# **Appendix B**

## **(Crash History and Analysis)**

1999	5	0	0.48
2000	4	0	0.34
2001	4	0	0.35
2002	8	0	1.23
2003	9	0	1.23

**SILVER PALM DR**  
**SW 232 STREET**

M.P. 7.879

1999	1	0	0.20
2000	2	0	0.36
2001	7	0	1.28
2002	2	0	0.35
2003	3	0	0.47

1999	8	0	0.76
2000	4	0	0.34
2001	5	0	0.43
2002	6	0	0.92
2003	10	0	1.37

**COCONUT PALM DR**  
**(SW 248 STREET)**

M.P. 6.859

1999	2	0	0.80
2000	0	0	-
2001	1	0	0.36
2002	3	0	1.05
2003	1	0	0.31

1999	4	0	0.38
2000	1	0	0.09
2001	2	2	0.17
2002	5	0	0.77
2003	7	0	0.96

**PLUMMER DR**  
**(SW 256 STREET)**

M.P. 6.357

1999	1	0	0.40
2000	1	0	0.36
2001	1	0	0.36
2002	3	0	1.04
2003	0	0	-

1999	4	1	0.38
2000	4	0	0.34
2001	7	0	0.60
2002	2	0	0.31
2003	2	0	0.27

**BAUER DR**  
**(SW 264 STREET)**

M.P. 5.848

1999	0	0	-
2000	0	0	-
2001	0	0	-
2002	1	0	0.35
2003	1	2	0.31

1999	6	0	0.57
2000	7	0	0.60
2001	7	0	0.60
2002	6	1	0.92
2003	2	0	0.27

**EPMORE DR**  
**(SW 272 STREET)**

M.P. 5.342

1999	2	0	0.40
2000	4	1	0.73
2001	5	0	0.92
2002	4	0	0.71
2003	4	0	0.63

1999	7	0	0.67
2000	1	0	0.09
2001	6	0	0.52
2002	7	1	1.08
2003	3	1	0.41

**BISCAYNE DR**  
**(SW 288 STREET)**

M.P. 4.322

1999	3	0	1.22
2000	3	0	1.10
2001	1	0	0.37
2002	0	0	-
2003	2	0	0.63

1999	4	0	0.29
2000	7	0	0.59
2001	4	0	0.39
2002	1	0	0.15
2003	11	0	1.99

**AVOCADO DR**  
**(SW 296 STREET)**

M.P. 3.827

#### LEGEND



Signalized Intersection



Un-Signalized Intersection

Year	# of crashes	# of fatalities	Safety Ratio
------	--------------	-----------------	--------------

# URS

Krome Avenue  
PD&E Study

Crash  
Analysis



Figure 2A  
Not to Scale

1999	5	0	0.52
2000	13	2	1.22
2001	12	0	1.19
2002	6	0	0.90
2003	8	0	1.20

**HOWARD RD**  
**(SW 136 STREET)**

13

M.P. 13.895

1999	5	0	0.61
2000	7	0	0.78
2001	5	1	0.58
2002	6	0	0.58
2003	9	0	0.87

1999	4	0	0.41
2000	2	0	0.19
2001	10	1	0.99
2002	2	0	0.30
2003	4	0	0.60

**RICHMOND DR**  
**(SW 168 STREET)**

12

M.P. 11.945

**RICHMOND DR**  
**(SW 168 STREET)**

M.P. 11.898

1999	4	1	0.89
2000	4	0	0.81
2001	3	0	0.63
2002	5	0	0.88
2003	3	0	0.53

1999	3	0	0.28
2000	5	0	0.41
2001	7	0	0.55
2002	7	0	1.04
2003	10	0	1.33

**EUREKA DR**  
**(SW 184 STREET)**

11

M.P. 10.896

1999	6	0	0.55
2000	7	0	0.58
2001	5	0	0.39
2002	1	0	0.15
2003	3	0	0.40

**GROSSMAN FARM DR**  
**(SW 192 STREET)**

10

M.P. 10.389

1999	1	0	0.38
2000	2	0	0.69
2001	2	0	0.66
2002	0	0	-
2003	0	0	-

1999	2	0	0.18
2000	8	0	0.66
2001	9	0	0.71
2002	4	0	0.60
2003	2	0	0.27

**QUAIL ROOST DR**  
**(SW 200 STREET)**

9

M.P. 9.884

1999	5	0	1.93
2000	0	0	-
2001	1	0	0.33
2002	1	0	0.34
2003	4	0	1.20

1999	4	0	0.37
2000	3	0	0.25
2001	5	0	0.39
2002	2	0	0.30
2003	4	0	0.53

**HAINLIN MILL DR**  
**(SW 216 STREET)**

8

M.P. 8.885

1999	6	0	1.19
2000	2	0	0.36
2001	3	0	0.51
2002	4	0	0.70
2003	1	0	0.16

1999	5	0	0.99
2000	3	0	0.53
2001	4	0	0.68
2002	5	0	0.87
2003	2	0	0.31

#### LEGEND



Signalized Intersection



Un-Signalized Intersection

Year	# of crashes	# of fatalities	Safety Ratio
------	--------------	-----------------	--------------

# URS

Krome Avenue  
PD&E Study

Crash  
Analysis



Figure 2B  
Not to Scale

## **(Segment Analysis)**

# SW 296 Street to SW 288 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 3.877 to 4.272  
 ADT = 12,000 13,600 13,500 0 16,200  
 Nearest Node = 873  
 Crash Rate Class Category = S-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	0	3	0	0	0
	Head On	0	0	0	0	0
	Angle	1	0	0	0	1
	Left Turn	0	0	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	2	0	1	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	2	0	1	1	1
	Injury Crashes	1	3	0	0	1
LIGHT CONDITIONS	Daylite	2	2	1	0	2
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	1	1	0	0	0
	Dark (wo/Street Lites)	0	0	0	0	0
	Unknown	0	0	0	0	0
WEATHER	Dry	2	1	0	0	1
	Cloudy	1	2	0	0	1
	Rain	0	0	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	2	3	0	0	2
	Wet	1	0	0	0	0
	Others	0	0	1	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	0
	February	1	1	0	0	0
	March	1	0	0	0	0
	April	0	0	0	0	0
	May	0	0	0	0	0
	June	0	0	1	0	0
	July	0	1	0	0	0
	August	0	1	0	0	0
	September	1	0	0	0	0
	October	0	0	0	0	2
	November	0	0	0	0	0
	December	0	0	0	0	0
DAY OF WEEK	Sunday	0	0	0	0	0
	Monday	0	1	0	0	0
	Tuesday	0	0	0	0	0
	Wednesday	0	1	0	0	0
	Thursday	1	0	0	0	2
	Friday	1	0	1	0	0
	Saturday	1	1	0	0	0
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	1	0	0	0	0
	09:00-12:00	0	0	0	0	1
	12:00-15:00	0	1	1	0	1
	15:00-18:00	1	2	0	0	0
	18:00-21:00	0	0	0	0	0
	21:00-24:00	1	0	0	0	0



# SW 288 Street to SW 272 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 4.372 to 5.292  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 874  
 Crash Rate Class Category = S-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	0	0	0	2
	Head On	0	1	0	0	0
	Angle	0	0	0	3	0
	Left Turn	0	0	1	0	1
	Right Turn	0	0	0	0	0
	Sideswipe	0	1	1	1	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	2	3	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	1	2	0	1
	Injury Crashes	1	3	3	4	3
LIGHT CONDITIONS	Daylite	1	2	3	2	3
	Dusk	0	0	0	1	0
	Dawn	0	1	1	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	1	1	1	1	1
	Unknown	0	0	0	0	0
WEATHER	Dry	2	4	3	2	1
	Cloudy	0	0	1	2	2
	Rain	0	0	1	0	1
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	2	4	4	4	3
	Wet	0	0	1	0	1
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	1	1	0	0	0
	February	0	0	0	0	1
	March	1	0	2	0	0
	April	0	0	0	1	0
	May	0	0	1	0	0
	June	0	1	0	1	1
	July	0	1	0	0	0
	August	0	1	0	0	1
	September	0	0	0	1	0
	October	0	0	0	0	0
	November	0	0	2	1	1
	December	0	0	0	0	0
DAY OF WEEK	Sunday	0	0	1	1	1
	Monday	1	1	2	1	0
	Tuesday	0	0	1	0	0
	Wednesday	0	0	0	1	1
	Thursday	1	1	0	1	1
	Friday	0	1	1	0	0
	Saturday	0	1	0	0	1
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	0	2	1	2	2
	09:00-12:00	0	0	0	0	0
	12:00-15:00	1	0	2	1	1
	15:00-18:00	1	0	0	1	0
	18:00-21:00	0	2	2	0	0
	21:00-24:00	0	0	0	0	1

# SW 272 Street to SW 264 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 5.392 to 5.798  
 ADT = 0 0 0 14,100 16,200  
 Nearest Node = 878  
 Crash Rate Class Category =

		Number	Number	Number	Number	Number
CRASH TYPE	Rear End	0	0	0	1	0
	Head On	0	0	0	0	0
	Angle	0	0	0	0	0
	Left Turn	0	0	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	0	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	1	1	1	0
	Injury Crashes	0	0	0	0	1
LIGHT CONDITIONS	Daylight	0	0	0	1	0
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	0	0	0	0	1
	Unknown	0	0	0	0	0
WEATHER	Dry	0	0	0	1	0
	Cloudy	0	0	0	0	1
	Rain	0	0	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	0	0	0	1	1
	Wet	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	0
	February	0	0	0	0	0
	March	0	0	0	0	0
	April	0	0	0	0	0
	May	0	0	0	0	1
	June	0	0	0	1	0
	July	0	0	0	0	0
	August	0	0	0	0	0
	September	0	0	0	0	0
	October	0	0	0	0	0
	November	0	0	0	0	0
	December	0	0	0	0	0
DAY OF WEEK	Sunday	0	0	0	0	0
	Monday	0	0	0	1	0
	Tuesday	0	0	0	0	0
	Wednesday	0	0	0	0	0
	Thursday	0	0	0	0	0
	Friday	0	0	0	0	1
	Saturday	0	0	0	0	0
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	0	0	0	0	0
	09:00-12:00	0	0	0	0	0
	12:00-15:00	0	0	0	0	0
	15:00-18:00	0	0	0	1	0
	18:00-21:00	0	0	0	0	1
	21:00-24:00	0	0	0	0	0

# SW 264 Street to SW 256 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 5.898 to 6.307  
 ADT = 12,000 13,600 13,500 14,100 0  
 Nearest Node = 879  
 Crash Rate Class Category = R-2UN

		Number	Number	Number	Number	Number
CRASH TYPE	Rear End	0	1	0	0	0
	Head On	0	0	0	0	0
	Angle	0	0	0	1	0
	Left Turn	0	0	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	0	1	2	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	0	0	0	0	1
	Injury Crashes	1	1	1	3	0
LIGHT CONDITIONS	Daylite	0	1	1	1	0
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	1	0	0	2	0
	Unknown	0	0	0	0	0
WEATHER	Dry	0	0	0	1	0
	Cloudy	1	1	1	2	0
	Rain	0	0	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	1	1	1	3	0
	Wet	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	1	0
	February	0	0	1	0	0
	March	0	1	0	0	0
	April	1	0	0	0	0
	May	0	0	0	0	0
	June	0	0	0	0	0
	July	0	0	0	0	0
	August	0	0	0	0	0
	September	0	0	0	1	0
	October	0	0	0	0	0
	November	0	0	0	0	0
	December	0	0	0	1	0
DAY OF WEEK	Sunday	0	1	1	1	0
	Monday	0	0	0	0	0
	Tuesday	0	0	0	0	0
	Wednesday	0	0	0	0	0
	Thursday	1	0	0	0	0
	Friday	0	0	0	0	0
	Saturday	0	0	0	2	0
HOUR OF DAY	00:00-03:00	0	0	0	1	0
	03:00-06:00	0	0	0	1	0
	06:00-09:00	0	0	0	0	0
	09:00-12:00	0	0	0	0	0
	12:00-15:00	0	1	1	0	0
	15:00-18:00	0	0	0	0	0
	18:00-21:00	0	0	0	0	0
	21:00-24:00	1	0	0	1	0

# SW 256 Street to SW 248 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 6.407 to 6.809  
 ADT = 12,000 0 13,500 14,100 16,200  
 Nearest Node = 881  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	1	0	0	1	0
	Head On	0	0	0	0	0
	Angle	1	0	0	0	0
	Left Turn	0	0	0	2	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	1	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	0	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	0	1	1	0	1
	Injury Crashes	2	0	0	3	0
LIGHT CONDITIONS	Daylite	2	0	1	3	0
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	0	0	0	0	1
	Unknown	0	0	0	0	0
WEATHER	Dry	2	0	0	2	1
	Cloudy	0	0	0	1	0
	Rain	0	0	1	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	2	0	0	3	1
	Wet	0	0	1	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	0
	February	1	0	0	1	0
	March	0	0	0	0	0
	April	0	0	0	0	0
	May	0	0	0	0	0
	June	0	0	1	0	0
	July	1	0	0	0	1
	August	0	0	0	1	0
	September	0	0	0	0	0
	October	0	0	0	1	0
	November	0	0	0	0	0
	December	0	0	0	0	0
DAY OF WEEK	Sunday	0	0	1	0	1
	Monday	0	0	0	0	0
	Tuesday	0	0	0	0	0
	Wednesday	1	0	0	0	0
	Thursday	0	0	0	3	0
	Friday	1	0	0	0	0
	Saturday	0	0	0	0	0
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	2	0	0	1	0
	09:00-12:00	0	0	0	2	0
	12:00-15:00	0	0	0	0	0
	15:00-18:00	0	0	0	0	0
	18:00-21:00	0	0	1	0	0
	21:00-24:00	0	0	0	0	1

# SW 248 Street to SW 232 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 6.909 to 7.829  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 5732  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	0	1	1	0	0
	Head On	0	0	0	0	0
	Angle	0	0	1	1	0
	Left Turn	0	0	1	1	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	2	0	1
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	1	2	0	2
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	0	0	0	0	2
	Injury Crashes	1	2	7	2	1
LIGHT CONDITIONS	Daylite	0	2	4	2	2
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	2	0	0
	Dark (wo/Street Lites)	1	0	1	0	1
	Unknown	0	0	0	0	0
WEATHER	Dry	0	0	5	0	1
	Cloudy	1	1	2	2	2
	Rain	0	1	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	1	1	7	2	3
	Wet	0	1	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	2	0	0
	February	0	0	1	1	0
	March	0	0	0	0	0
	April	0	0	1	0	0
	May	0	0	1	0	0
	June	0	1	1	0	0
	July	0	0	0	0	0
	August	0	0	1	0	1
	September	0	1	0	0	1
	October	0	0	0	0	0
	November	0	0	0	0	1
	December	1	0	0	1	0
DAY OF WEEK	Sunday	1	0	0	0	0
	Monday	0	1	1	1	0
	Tuesday	0	0	2	0	0
	Wednesday	0	1	2	0	0
	Thursday	0	0	0	0	1
	Friday	0	0	1	1	0
	Saturday	0	0	1	0	2
HOUR OF DAY	00:00-03:00	0	0	0	0	1
	03:00-06:00	0	0	0	0	0
	06:00-09:00	0	1	0	2	0
	09:00-12:00	0	0	0	0	0
	12:00-15:00	0	0	3	0	1
	15:00-18:00	0	0	1	0	1
	18:00-21:00	1	1	2	0	0
	21:00-24:00	0	0	1	0	0

# SW 232 Street to SW 216 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 7.929 to 8.835  
 ADT = 12,500 14,300 15,100 14,600 16,800  
 Nearest Node = 884  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	1	2	3	2
	Head On	0	0	0	0	0
	Angle	1	0	0	0	0
	Left Turn	0	1	1	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	2	1	1	2	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	1	0	3	1
	Injury Crashes	4	2	4	2	1
LIGHT CONDITIONS	Daylite	3	2	2	4	0
	Dusk	0	1	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	2	0	2	1	2
	Unknown	0	0	0	0	0
WEATHER	Dry	3	2	2	3	1
	Cloudy	1	1	1	2	0
	Rain	1	0	1	0	1
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	4	3	3	5	1
	Wet	1	0	1	0	1
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	1	0	0
	February	1	0	0	0	0
	March	0	1	0	1	1
	April	1	0	0	2	0
	May	1	1	0	0	1
	June	0	1	1	0	0
	July	0	0	0	0	0
	August	1	0	1	1	0
	September	1	0	1	0	0
	October	0	0	0	1	0
	November	0	0	0	0	0
	December	0	0	0	0	0
DAY OF WEEK	Sunday	0	0	1	1	2
	Monday	1	0	0	0	0
	Tuesday	1	0	0	1	0
	Wednesday	0	0	0	1	0
	Thursday	0	1	2	1	0
	Friday	0	1	0	0	0
	Saturday	3	1	1	1	0
HOUR OF DAY	00:00-03:00	2	0	0	1	1
	03:00-06:00	0	0	1	0	0
	06:00-09:00	0	1	1	0	0
	09:00-12:00	1	0	1	1	0
	12:00-15:00	1	0	0	0	0
	15:00-18:00	1	1	0	1	0
	18:00-21:00	0	1	1	2	0
	21:00-24:00	0	0	0	0	1

# SW 216 Street to SW 200 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 8.935 to 9.834  
 ADT = 12,500 14,300 15,100 14,600 16,800  
 Nearest Node = 885  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	3	0	1	0	0
	Head On	0	0	0	0	0
	Angle	1	0	0	2	0
	Left Turn	0	1	1	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	1	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	2	1	1	1	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	4	0	2	1	1
	Injury Crashes	2	2	1	3	0
LIGHT CONDITIONS	Daylite	4	1	1	3	1
	Dusk	1	0	1	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	0	1	1	1	0
	Unknown	1	0	0	0	0
WEATHER	Dry	3	2	3	2	1
	Cloudy	2	0	0	2	0
	Rain	0	0	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	5	2	3	3	1
	Wet	0	0	0	0	0
	Others	1	0	0	1	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	0
	February	2	0	0	0	0
	March	0	0	0	2	1
	April	0	0	0	0	0
	May	1	0	1	0	0
	June	0	0	0	1	0
	July	0	0	0	0	0
	August	1	0	0	0	0
	September	0	0	0	0	0
	October	0	0	1	0	0
	November	1	0	1	0	0
	December	1	2	0	1	0
DAY OF WEEK	Sunday	0	0	1	3	0
	Monday	2	0	0	0	0
	Tuesday	0	0	0	0	0
	Wednesday	1	0	0	0	0
	Thursday	2	1	2	1	1
	Friday	1	1	0	0	0
	Saturday	0	0	0	0	0
HOUR OF DAY	00:00-03:00	0	0	0	1	0
	03:00-06:00	1	0	1	0	0
	06:00-09:00	1	1	1	0	1
	09:00-12:00	1	0	0	0	0
	12:00-15:00	2	0	0	2	0
	15:00-18:00	0	0	1	0	0
	18:00-21:00	1	1	0	1	0
	21:00-24:00	0	0	0	0	0

# SW 200 Street to SW 192 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 9.934 to 10.339  
 ADT = 12,500 0 15,100 14,600 16,800  
 Nearest Node = 887  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	0	1	1	3
	Head On	0	0	0	0	0
	Angle	2	0	0	0	1
	Left Turn	0	0	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	0	0	0	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	0	1	1	0	2
	Injury Crashes	5	0	0	1	2
LIGHT CONDITIONS	Daylite	3	0	1	1	1
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	1	0	0	0	1
	Dark (wo/Street Lites)	1	0	0	0	2
	Unknown	0	0	0	0	0
WEATHER	Dry	1	0	1	0	3
	Cloudy	3	0	0	0	1
	Rain	1	0	0	1	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	3	0	1	0	4
	Wet	2	0	0	1	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	1
	February	1	0	1	1	0
	March	0	0	0	0	0
	April	1	0	0	0	1
	May	0	0	0	0	0
	June	0	0	0	0	0
	July	0	0	0	0	0
	August	1	0	0	0	1
	September	0	0	0	0	1
	October	0	0	0	0	0
	November	1	0	0	0	0
	December	1	0	0	0	0
DAY OF WEEK	Sunday	2	0	0	0	0
	Monday	0	0	0	0	1
	Tuesday	2	0	0	0	0
	Wednesday	0	0	0	0	1
	Thursday	0	0	1	0	1
	Friday	0	0	0	0	0
	Saturday	1	0	0	1	1
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	1	0	0	0	1
	06:00-09:00	0	0	1	0	1
	09:00-12:00	2	0	0	0	0
	12:00-15:00	1	0	0	1	0
	15:00-18:00	0	0	0	0	0
	18:00-21:00	1	0	0	0	2
	21:00-24:00	0	0	0	0	0



# SW 192 Street to SW 184 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 10.439 to 10.846  
 ADT = 12,500 14,300 15,100 0 0  
 Nearest Node = 7189  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	0	1	2	0	0
	Head On	1	0	0	0	0
	Angle	0	0	0	0	0
	Left Turn	0	0	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	1	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	0	0	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	0	1	1	1
	Injury Crashes	0	2	1	0	0
LIGHT CONDITIONS	Daylite	0	1	2	0	0
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	1	1	0	0	0
	Unknown	0	0	0	0	0
WEATHER	Dry	1	1	0	0	0
	Cloudy	0	0	1	0	0
	Rain	0	1	1	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	1	1	1	0	0
	Wet	0	1	1	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	0
	February	0	0	0	0	0
	March	0	0	0	0	0
	April	0	0	0	0	0
	May	0	0	0	0	0
	June	0	0	0	0	0
	July	0	0	1	0	0
	August	0	0	0	0	0
	September	0	1	1	0	0
	October	0	0	0	0	0
	November	0	0	0	0	0
	December	1	1	0	0	0
DAY OF WEEK	Sunday	0	0	0	0	0
	Monday	0	0	0	0	0
	Tuesday	0	1	0	0	0
	Wednesday	0	0	0	0	0
	Thursday	0	0	0	0	0
	Friday	0	0	2	0	0
	Saturday	1	1	0	0	0
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	0	1	0	0	0
	09:00-12:00	0	0	1	0	0
	12:00-15:00	0	0	0	0	0
	15:00-18:00	0	0	1	0	0
	18:00-21:00	0	0	0	0	0
	21:00-24:00	1	1	0	0	0

# SW 184 Street to SW 168 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 10.946 to 11.848  
 ADT = 10,900 12,200 11,500 14,500 14,500  
 Nearest Node = 890  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	1	1	1	1	2
	Head On	0	0	0	1	0
	Angle	0	2	0	0	1
	Left Turn	1	0	2	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	1	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	1	0	3	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	3	2	0	3	1
	Injury Crashes	1	2	3	2	2
LIGHT CONDITIONS	Daylight	2	3	1	3	2
	Dusk	0	0	0	1	0
	Dawn	0	0	1	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	2	1	1	1	1
	Unknown	0	0	0	0	0
WEATHER	Dry	3	0	0	3	3
	Cloudy	1	2	2	1	0
	Rain	0	1	1	1	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	4	2	2	4	3
	Wet	0	1	1	0	0
	Others	0	1	0	1	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	1	0	0	0	0
	February	0	0	0	0	0
	March	0	0	0	0	0
	April	1	1	0	0	1
	May	0	0	0	0	0
	June	0	0	0	0	0
	July	0	2	1	1	1
	August	1	1	0	3	0
	September	0	0	0	0	1
	October	1	0	1	0	0
	November	0	0	1	0	0
	December	0	0	0	1	0
DAY OF WEEK	Sunday	0	1	1	0	0
	Monday	1	2	1	1	0
	Tuesday	2	0	0	1	1
	Wednesday	0	0	0	1	1
	Thursday	0	0	1	0	0
	Friday	1	0	0	1	0
	Saturday	0	1	0	1	1
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	1	0	0	0	0
	06:00-09:00	0	0	1	1	0
	09:00-12:00	1	0	0	0	0
	12:00-15:00	0	1	0	1	0
	15:00-18:00	0	2	1	2	2
	18:00-21:00	2	0	1	0	0
	21:00-24:00	0	1	0	1	1

# SW 168 Street to SW 136 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 11.995 to 13.845  
 ADT = 10,900 12,200 11,500 14,500 14,500  
 Nearest Node = 7424  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	1	0	0	1	0
	Head On	1	1	0	0	3
	Angle	1	0	2	0	1
	Left Turn	1	1	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	2	2	2	1
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	3	1	3	4
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	3	2	3	1	1
	Injury Crashes	2	5	2	5	8
LIGHT CONDITIONS	Daylite	3	6	2	4	5
	Dusk	1	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	1	0
	Dark (wo/Street Lites)	1	1	3	0	3
	Unknown	0	0	0	1	1
WEATHER	Dry	5	3	2	3	4
	Cloudy	0	2	2	2	3
	Rain	0	1	1	0	2
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	5	5	4	5	6
	Wet	0	1	1	0	3
	Others	0	1	0	1	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	1	0	0	1
	February	0	1	1	1	0
	March	1	1	1	0	1
	April	2	1	0	1	0
	May	0	1	1	0	0
	June	1	0	1	2	2
	July	1	0	0	0	1
	August	0	1	1	0	0
	September	0	1	0	0	2
	October	0	0	0	2	1
	November	0	0	0	0	0
	December	0	0	0	0	1
DAY OF WEEK	Sunday	0	1	3	1	2
	Monday	1	1	0	0	1
	Tuesday	2	1	0	0	2
	Wednesday	1	0	1	0	0
	Thursday	0	0	0	2	2
	Friday	0	0	1	1	1
	Saturday	1	4	0	2	1
HOUR OF DAY	00:00-03:00	0	0	1	1	1
	03:00-06:00	0	0	0	0	0
	06:00-09:00	2	1	0	0	0
	09:00-12:00	0	0	0	1	3
	12:00-15:00	0	2	0	0	0
	15:00-18:00	1	3	1	3	3
	18:00-21:00	2	1	3	1	2
	21:00-24:00	0	0	0	0	0

**Krome Avenue**  
**SW 296 Street to SW 288 Street (BMP - 3.877 - EMP - 4.272)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	3	12,000	0.395	1.734	0.679	1.645	1.421	1.221	1	0	\$656,700
2000	3	13,600	0.395	1.530	0.679	1.645	1.392	1.099	3	0	\$656,700
2001	1	13,500	0.395	0.514	0.679	1.645	1.394	0.369	0	0	\$218,900
2002	0	0	0.395	#DIV/0!	#N/A	1.645	#N/A	#DIV/0!	0	0	\$0
2003	2	16,200	0.395	0.856	0.679	1.645	1.352	0.633	1	0	\$437,800

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**Krome Avenue**  
**SW 288 Street to SW 272 Street (BMP - 4.372 - EMP - 5.292)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	2	12,000	0.920	0.496	0.679	1.645	1.230	0.403	1	0	\$437,800
2000	4	13,600	0.920	0.876	0.679	1.645	1.204	0.728	2	1	\$875,600
2001	5	13,500	0.920	1.103	0.679	1.645	1.205	0.915	3	0	\$1,094,500
2002	4	14,100	0.920	0.845	0.679	1.645	1.196	0.706	4	0	\$875,600
2003	4	16,200	0.920	0.735	0.679	1.645	1.168	0.629	3	0	\$875,600

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**Krome Avenue**  
**SW 272 Street to SW 264 Street (BMP - 5.392 - EMP - 5.798)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	0	0	0.406	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0
2000	0	0	0.406	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0
2001	0	0	0.406	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0
2002	1	14,100	0.406	0.479	0.679	1.645	1.377	0.347	0	0	\$218,900
2003	1	16,200	0.406	0.417	0.679	1.645	1.346	0.310	4	2	\$218,900

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**Krome Avenue**  
**SW 264 Street to SW 256 Street (BMP - 5.898 - EMP - 6.307)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	1	12,000	0.409	0.558	0.679	1.645	1.413	0.395	1	0	\$218,900
2000	1	13,600	0.409	0.493	0.679	1.645	1.384	0.356	1	0	\$218,900
2001	1	13,500	0.409	0.496	0.679	1.645	1.386	0.358	1	0	\$218,900
2002	3	14,100	0.409	1.425	0.679	1.645	1.376	1.036	3	0	\$656,700
2003	0	0	0.409	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0

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**Krome Avenue**  
**SW 256 Street to SW 248 Street (BMP - 6.407 - EMP - 6.809)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	2	12,000	0.402	1.136	0.679	1.645	1.417	0.802	2	0	\$437,800
2000	0	0	0.402	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0
2001	1	13,500	0.402	0.505	0.679	1.645	1.390	0.363	0	0	\$218,900
2002	3	14,100	0.402	1.450	0.679	1.645	1.380	1.051	3	0	\$656,700
2003	1	16,200	0.402	0.421	0.679	1.645	1.348	0.312	0	0	\$218,900

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**Krome Avenue**  
**SW 248 Street to SW 232 Street (BMP - 6.909 - EMP - 7.829)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injur Crashes	Fatal Crashes	Total Economic Loss
1999	1	12,000	0.920	0.248	0.679	1.645	1.230	0.202	1	0	\$218,900
2000	2	13,600	0.920	0.438	0.679	1.645	1.204	0.364	2	0	\$437,800
2001	7	13,500	0.920	1.544	0.679	1.645	1.205	1.281	7	0	\$1,532,300
2002	2	14,100	0.920	0.422	0.679	1.645	1.196	0.353	2	0	\$437,800
2003	3	16,200	0.920	0.551	0.679	1.645	1.168	0.472	1	0	\$656,700

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**Krome Avenue**  
**SW 232 Street to SW 216 Street (BMP - 7.929 - EMP - 8.835)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	5	12,500	0.906	1.210	0.679	1.645	1.225	0.988	4	0	\$1,094,500
2000	3	14,300	0.906	0.634	0.679	1.645	1.197	0.530	2	0	\$656,700
2001	4	15,100	0.906	0.801	0.679	1.645	1.185	0.676	4	0	\$875,600
2002	5	14,600	0.906	1.036	0.679	1.645	1.192	0.869	2	0	\$1,094,500
2003	2	16,800	0.906	0.360	0.679	1.645	1.164	0.309	1	0	\$437,800

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**Krome Avenue**  
**SW 216 Street to SW 200 Street (BMP - 8.935 - EMP - 9.834)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	6	12,500	0.899	1.463	0.679	1.645	1.226	1.193	2	0	\$1,313,400
2000	2	14,300	0.899	0.426	0.679	1.645	1.198	0.356	2	0	\$437,800
2001	3	15,100	0.899	0.605	0.679	1.645	1.187	0.510	1	0	\$656,700
2002	4	14,600	0.899	0.835	0.679	1.645	1.194	0.699	3	0	\$875,600
2003	1	16,800	0.899	0.181	0.679	1.645	1.166	0.156	0	0	\$218,900

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**Krome Avenue**  
**SW 200 Street to SW 192 Street (BMP - 9.934 - EMP - 10.339)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	5	12,500	0.405	2.706	0.679	1.645	1.406	1.925	5	0	\$1,094,500
2000	0	0	0.405	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0
2001	1	15,100	0.405	0.448	0.679	1.645	1.362	0.329	0	0	\$218,900
2002	1	14,600	0.405	0.463	0.679	1.645	1.370	0.338	1	0	\$218,900
2003	4	16,800	0.405	1.611	0.679	1.645	1.338	1.204	2	0	\$875,600

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**Krome Avenue**  
**SW 192 Street to SW 184 Street (BMP - 10.439 - EMP - 10.846)**

Year	Number of Crashes	ADT (Vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	1	12,500	0.407	0.539	0.679	1.645	1.404	0.383	0	0	\$218,900
2000	2	14,300	0.407	0.941	0.679	1.645	1.374	0.685	2	0	\$437,800
2001	2	15,100	0.407	0.892	0.679	1.645	1.361	0.655	1	0	\$437,800
2002	0	0	0.407	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0
2003	0	0	0.407	#DIV/0!	0.679	1.645	#DIV/0!	#DIV/0!	0	0	\$0

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**Krome Avenue**  
**SW 184 Street to SW 168 Street (BMP - 10.946 - EMP - 11.848)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	4	10,900	0.902	1.115	0.679	1.645	1.255	0.888	1	1	\$875,600
2000	4	12,200	0.902	0.996	0.679	1.645	1.231	0.809	2	0	\$875,600
2001	3	11,500	0.906	0.789	0.679	1.645	1.243	0.635	3	0	\$656,700
2002	5	14,500	0.902	1.047	0.679	1.645	1.195	0.877	2	0	\$1,094,500
2003	3	14,500	0.902	0.628	0.679	1.645	1.195	0.526	2	0	\$656,700

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**Krome Avenue**  
**SW 168 Street to SW 136 Street (BMP - 11.995 - EMP - 13.845)**

Year	Number of Crashes	ADT (vpd)	Segment Length	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	5	10,900	1.850	0.679	0.679	1.645	1.111	0.612	2	0	\$1,094,500
2000	7	12,200	1.850	0.850	0.679	1.645	1.091	0.779	5	0	\$1,532,300
2001	5	11,500	1.850	0.644	0.679	1.645	1.101	0.585	2	1	\$1,094,500
2002	6	14,500	1.850	0.613	0.679	1.645	1.061	0.577	5	0	\$1,313,400
2003	9	14,500	1.850	0.919	0.679	1.645	1.061	0.866	8	0	\$1,970,100

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## **(Spot Analysis)**



# Krome Avenue at SW 296 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 3.777 to 3.877  
 ADT = 16,300 13,900 11,700 14,100 11,600  
 Nearest Node = 872  
 Crash Rate Class Category = S-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	3	1	2	1	3
	Head On	0	0	0	0	0
	Angle	1	1	1	0	4
	Left Turn	0	0	0	0	1
	Right Turn	0	0	0	0	0
	Sideswipe	0	1	0	0	2
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	4	1	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	0	3	1	0	5
	Injury Crashes	4	4	3	1	6
LIGHT CONDITIONS	Daylite	1	3	2	1	7
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	2	3	2	0	4
	Dark (wo/Street Lites)	0	1	0	0	0
	Unknown	1	0	0	0	0
WEATHER	Dry	3	4	2	0	8
	Cloudy	1	2	1	1	3
	Rain	0	1	1	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	4	6	3	1	11
	Wet	0	1	1	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	1	0	1	1	2
	February	2	1	0	0	0
	March	0	1	1	0	3
	April	0	1	0	0	0
	May	0	2	0	0	2
	June	0	0	0	0	0
	July	0	0	0	0	0
	August	0	1	0	0	1
	September	1	0	1	0	0
	October	0	0	0	0	2
	November	0	1	1	0	1
	December	0	0	0	0	0
DAY OF WEEK	Sunday	1	1	0	0	2
	Monday	1	0	1	0	2
	Tuesday	0	1	0	0	0
	Wednesday	1	2	0	0	0
	Thursday	0	0	1	1	1
	Friday	0	1	1	0	1
	Saturday	1	2	1	0	5
HOUR OF DAY	00:00-03:00	0	0	1	0	3
	03:00-06:00	0	1	0	0	0
	06:00-09:00	3	0	0	1	0
	09:00-12:00	0	0	0	0	0
	12:00-15:00	0	1	0	0	2
	15:00-18:00	0	2	2	0	4
	18:00-21:00	0	1	1	0	2
	21:00-24:00	1	2	0	0	0

# Krome Avenue at SW 288 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 4.272 to 4.372  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 874  
 Crash Rate Class Category = S-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	0	1	4	0
	Head On	0	0	0	0	0
	Angle	4	0	4	3	1
	Left Turn	0	1	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	1	0	0	0	1
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	1	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	1	2	2	2
	Injury Crashes	6	0	4	5	1
LIGHT CONDITIONS	Daylite	4	1	5	7	2
	Dusk	0	0	0	0	0
	Dawn	1	0	0	0	0
	Dark (w/Street Lites)	1	0	1	0	1
	Dark (wo/Street Lites)	1	0	0	0	0
	Unknown	0	0	0	0	0
WEATHER	Dry	2	1	2	4	1
	Cloudy	4	0	3	2	1
	Rain	1	0	1	1	1
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	6	1	4	6	2
	Wet	1	0	2	1	1
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	1	0	1	0	0
	February	0	0	0	1	0
	March	1	0	1	2	0
	April	0	0	0	0	0
	May	0	0	1	1	0
	June	2	0	0	1	1
	July	0	1	2	0	0
	August	2	0	0	0	0
	September	0	0	1	0	1
	October	1	0	0	0	0
	November	0	0	0	1	0
	December	0	0	0	1	1
DAY OF WEEK	Sunday	0	0	1	1	0
	Monday	3	0	0	2	0
	Tuesday	1	0	0	0	0
	Wednesday	0	0	1	0	1
	Thursday	0	0	2	2	0
	Friday	1	0	0	1	0
	Saturday	2	1	2	1	2
HOUR OF DAY	00:00-03:00	1	0	1	0	0
	03:00-06:00	1	0	0	0	0
	06:00-09:00	3	0	3	2	0
	09:00-12:00	0	0	0	2	1
	12:00-15:00	0	0	1	2	0
	15:00-18:00	2	1	0	1	0
	18:00-21:00	0	0	1	0	2
	21:00-24:00	0	0	0	0	0

# Krome Avenue at SW 272 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 5.292 to 5.392  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 877  
 Crash Rate Class Category = S-2UN S-2UN S-2UN S-2UN S-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	0	1	1	0	1
	Head On	0	0	0	0	0
	Angle	3	2	3	3	1
	Left Turn	1	2	3	3	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	2	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	2	0	0	0	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	4	2	2	2	1
	Injury Crashes	4	5	5	4	1
LIGHT CONDITIONS	Daylite	4	2	5	3	1
	Dusk	0	1	0	1	0
	Dawn	0	1	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	1	3	2	2	1
	Unknown	1	0	0	0	0
WEATHER	Dry	2	4	4	3	1
	Cloudy	2	3	3	2	1
	Rain	0	0	0	1	0
	Fog	1	0	0	0	0
	Others	0	0	0	0	0
SURFACE CONDITIONS	Unknown	1	0	0	0	0
	Dry	5	6	6	5	2
	Wet	0	1	1	1	0
	Others	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	0
	February	2	0	0	1	0
	March	0	0	0	0	0
	April	0	1	1	0	0
	May	0	0	0	0	0
	June	0	1	3	1	0
	July	1	1	1	1	0
	August	0	0	0	0	0
	September	1	0	2	0	0
	October	1	3	0	0	0
	November	0	1	0	1	0
	December	1	0	0	2	2
DAY OF WEEK	Sunday	2	1	1	0	1
	Monday	0	2	1	1	0
	Tuesday	1	0	0	3	1
	Wednesday	0	0	0	1	0
	Thursday	1	1	2	0	0
	Friday	0	2	3	0	0
	Saturday	2	1	0	1	0
HOUR OF DAY	00:00-03:00	1	0	0	0	0
	03:00-06:00	1	1	0	0	1
	06:00-09:00	0	1	0	0	0
	09:00-12:00	1	0	0	1	0
	12:00-15:00	1	2	2	2	1
	15:00-18:00	2	0	1	1	0
	18:00-21:00	0	2	4	0	0
	21:00-24:00	0	1	0	2	0

# Krome Avenue at SW 264 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 5.798 to 5.898  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 879  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	2	4	0	1
	Head On	0	0	0	0	0
	Angle	1	0	1	1	0
	Left Turn	1	2	1	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	1	1	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	0	3	3	2	2
	Injury Crashes	4	1	4	0	0
LIGHT CONDITIONS	Daylite	2	2	4	0	1
	Dusk	0	0	0	1	0
	Dawn	0	1	0	0	0
	Dark (w/Street Lites)	0	1	0	0	0
	Dark (wo/Street Lites)	2	0	3	1	1
	Unknown	0	0	0	0	0
WEATHER	Dry	3	2	3	1	1
	Cloudy	1	1	2	1	1
	Rain	0	1	2	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	4	2	4	2	2
	Wet	0	2	3	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	2	0	2	1	0
	February	0	0	0	0	0
	March	0	0	1	1	0
	April	0	1	0	0	0
	May	0	0	0	0	0
	June	0	0	0	0	1
	July	1	0	0	0	0
	August	0	1	2	0	0
	September	0	1	1	0	0
	October	0	1	0	0	0
	November	0	0	1	0	0
	December	1	0	0	0	1
DAY OF WEEK	Sunday	0	0	2	0	0
	Monday	1	2	0	0	1
	Tuesday	0	0	0	0	0
	Wednesday	2	0	0	1	0
	Thursday	0	0	2	0	1
	Friday	1	1	2	0	0
	Saturday	0	1	1	1	0
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	0	2	4	0	0
	09:00-12:00	1	0	0	0	0
	12:00-15:00	1	0	0	1	0
	15:00-18:00	0	1	1	0	1
	18:00-21:00	0	0	1	0	1
	21:00-24:00	2	1	1	1	0

# Krome Avenue at SW 256 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 6.307 to 6.407  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 880  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	0	1	4	3
	Head On	0	0	0	0	0
	Angle	0	1	1	0	1
	Left Turn	1	0	0	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	1
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	0	0	1	2
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	2	0	1	0	1
	Injury Crashes	2	1	1	5	6
LIGHT CONDITIONS	Daylight	3	0	1	2	3
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	1	0
	Dark (wo/Street Lites)	0	1	1	2	4
	Unknown	1	0	0	0	0
WEATHER	Dry	1	1	1	2	7
	Cloudy	2	0	1	2	0
	Rain	0	0	0	1	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	1	0	0	0	0
SURFACE CONDITIONS	Dry	3	1	2	3	7
	Wet	0	0	0	2	0
	Others	0	0	0	0	0
	Unknown	1	0	0	0	0
MONTH OF YEAR	January	0	0	0	1	3
	February	0	0	0	0	2
	March	1	0	0	0	0
	April	0	0	1	0	0
	May	1	0	0	0	0
	June	0	0	0	2	0
	July	1	0	0	1	1
	August	0	0	0	0	0
	September	0	0	0	1	0
	October	0	1	0	0	0
	November	1	0	0	0	1
	December	0	0	1	0	0
DAY OF WEEK	Sunday	1	0	0	0	1
	Monday	3	0	1	1	0
	Tuesday	0	0	0	0	0
	Wednesday	0	0	0	0	1
	Thursday	0	0	0	2	0
	Friday	0	0	0	0	3
	Saturday	0	1	1	2	2
HOUR OF DAY	00:00-03:00	1	0	0	0	3
	03:00-06:00	0	0	0	1	0
	06:00-09:00	1	0	0	0	0
	09:00-12:00	1	0	0	1	1
	12:00-15:00	0	0	0	0	0
	15:00-18:00	0	0	0	2	1
	18:00-21:00	1	0	1	0	2
	21:00-24:00	0	1	1	1	0

# Krome Avenue at SW 248 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 6.809 to 6.909  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 882  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	4	2	2	1	4
	Head On	0	0	0	0	0
	Angle	1	2	1	2	3
	Left Turn	2	0	1	1	0
	Right Turn	0	0	0	1	0
	Sideswipe	1	0	0	0	2
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	1	1	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	4	2	1	1	8
	Injury Crashes	4	2	4	5	2
LIGHT CONDITIONS	Daylite	8	3	3	5	7
	Dusk	0	0	0	0	1
	Dawn	0	0	0	1	0
	Dark (w/Street Lites)	0	1	1	0	0
	Dark (wo/Street Lites)	0	0	1	0	2
	Unknown	0	0	0	0	0
WEATHER	Dry	4	2	4	3	5
	Cloudy	3	2	1	3	5
	Rain	1	0	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	6	3	5	6	9
	Wet	2	1	0	0	1
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	0
	February	1	1	1	1	1
	March	2	0	1	0	1
	April	1	0	0	2	0
	May	0	0	0	1	3
	June	2	0	2	1	0
	July	0	0	0	0	1
	August	1	1	0	0	1
	September	0	0	0	1	1
	October	0	2	1	0	1
	November	0	0	0	0	1
	December	1	0	0	0	0
DAY OF WEEK	Sunday	2	0	2	1	2
	Monday	1	1	1	0	2
	Tuesday	1	1	0	1	3
	Wednesday	1	2	1	1	2
	Thursday	0	0	0	0	0
	Friday	1	0	0	2	1
	Saturday	2	0	1	1	0
HOUR OF DAY	00:00-03:00	0	0	0	0	1
	03:00-06:00	0	1	1	1	0
	06:00-09:00	0	0	0	1	1
	09:00-12:00	2	0	1	2	1
	12:00-15:00	3	1	1	1	0
	15:00-18:00	2	2	0	1	5
	18:00-21:00	1	0	1	0	2
	21:00-24:00	0	0	1	0	0

# Krome Avenue at SW 232 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 7.829 to 7.929  
 ADT = 12,000 13,600 13,500 14,100 16,200  
 Nearest Node = 883  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	0	2	2	2	6
	Head On	1	0	1	0	0
	Angle	2	1	1	2	0
	Left Turn	1	1	0	1	1
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	1	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	0	3	2
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	2	2	7	2
	Injury Crashes	4	2	2	1	7
LIGHT CONDITIONS	Daylite	3	3	3	6	4
	Dusk	0	0	0	0	1
	Dawn	0	0	0	1	0
	Dark (w/Street Lites)	2	0	0	0	1
	Dark (wo/Street Lites)	0	1	1	1	3
	Unknown	0	0	0	0	0
WEATHER	Dry	3	3	4	5	5
	Cloudy	2	1	0	3	3
	Rain	0	0	0	0	1
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	5	4	4	8	7
	Wet	0	0	0	0	2
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	1	0	1	0	0
	February	1	1	0	0	1
	March	1	2	1	2	0
	April	1	0	1	2	0
	May	0	0	0	1	0
	June	0	0	0	1	1
	July	0	0	0	0	0
	August	0	1	0	0	0
	September	1	0	1	0	0
	October	0	0	0	1	3
	November	0	0	0	0	2
	December	0	0	0	1	2
DAY OF WEEK	Sunday	0	0	0	0	2
	Monday	0	1	0	0	2
	Tuesday	1	0	1	1	1
	Wednesday	0	0	0	1	0
	Thursday	0	2	2	0	2
	Friday	4	1	1	4	1
	Saturday	0	0	0	2	1
HOUR OF DAY	00:00-03:00	0	0	0	1	0
	03:00-06:00	0	0	0	1	1
	06:00-09:00	2	0	0	0	0
	09:00-12:00	0	0	2	2	2
	12:00-15:00	0	1	0	1	2
	15:00-18:00	2	1	1	0	0
	18:00-21:00	1	1	1	3	3
	21:00-24:00	0	1	0	0	1

# Krome Avenue at SW 216 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 8.835 to 8.935  
 ADT = 12,500 14,300 15,100 14,600 16,800  
 Nearest Node = 885  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	1	2	0	2	0
	Head On	0	0	0	0	0
	Angle	2	1	3	0	2
	Left Turn	0	0	0	0	1
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	0	2	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	1	2	0	2
	Injury Crashes	3	2	3	2	2
LIGHT CONDITIONS	Daylite	3	3	2	2	3
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	1	0	1	0	1
	Dark (wo/Street Lites)	0	0	2	0	0
	Unknown	0	0	0	0	0
WEATHER	Dry	2	3	4	2	2
	Cloudy	1	0	1	0	2
	Rain	1	0	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	2	3	5	2	4
	Wet	2	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	1	1	0	0
	February	0	0	0	0	2
	March	0	1	0	0	0
	April	0	0	1	0	0
	May	0	0	0	0	0
	June	1	0	1	0	0
	July	0	1	0	0	1
	August	1	0	1	0	0
	September	0	0	0	1	0
	October	0	0	0	0	1
	November	1	0	1	1	0
	December	1	0	0	0	0
DAY OF WEEK	Sunday	1	0	1	0	1
	Monday	0	0	0	0	0
	Tuesday	0	0	0	1	1
	Wednesday	1	0	1	0	1
	Thursday	0	1	1	0	0
	Friday	2	0	1	1	1
	Saturday	0	2	1	0	0
HOUR OF DAY	00:00-03:00	1	0	1	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	1	0	2	0	0
	09:00-12:00	0	0	0	0	2
	12:00-15:00	1	0	1	2	1
	15:00-18:00	1	3	1	0	0
	18:00-21:00	0	0	0	0	0
	21:00-24:00	0	0	0	0	1



# Krome Avenue at SW 200 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 9.834 to 9.934  
 ADT = 12,500 14,300 15,100 14,600 16,800  
 Nearest Node = 886  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	6	3	1	0
	Head On	0	0	0	0	0
	Angle	0	2	3	1	0
	Left Turn	0	0	0	1	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	1	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	0	2	1	2
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	5	3	1	1
	Injury Crashes	1	3	6	3	1
LIGHT CONDITIONS	Daylite	1	5	7	2	0
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	2	0	1	1
	Dark (wo/Street Lites)	1	1	2	1	1
	Unknown	0	0	0	0	0
WEATHER	Dry	0	4	7	1	1
	Cloudy	2	4	1	2	0
	Rain	0	0	1	1	1
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	2	8	8	3	1
	Wet	0	0	1	1	1
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	2	0	0
	February	0	1	0	0	1
	March	0	0	1	1	0
	April	0	0	0	0	0
	May	1	0	0	0	0
	June	0	1	0	1	0
	July	0	2	1	0	0
	August	0	0	0	0	0
	September	0	0	2	0	1
	October	0	1	1	0	0
	November	0	1	1	1	0
	December	1	2	1	1	0
DAY OF WEEK	Sunday	0	0	2	1	0
	Monday	2	1	1	1	1
	Tuesday	0	0	0	1	0
	Wednesday	0	1	2	0	1
	Thursday	0	4	0	0	0
	Friday	0	0	2	1	0
	Saturday	0	2	2	0	0
HOUR OF DAY	00:00-03:00	0	0	1	0	1
	03:00-06:00	0	0	0	0	0
	06:00-09:00	0	1	1	0	0
	09:00-12:00	0	2	2	1	0
	12:00-15:00	0	0	2	1	0
	15:00-18:00	1	2	2	0	0
	18:00-21:00	1	1	1	0	1
	21:00-24:00	0	2	0	2	0

# Krome Avenue at SW 192 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 10.339 to 10.439  
 ADT = 12,500 14,300 15,100 14,600 16,800  
 Nearest Node = 889  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	0	3	3	1	1
	Head On	0	0	0	0	0
	Angle	2	2	0	0	2
	Left Turn	1	2	1	0	0
	Right Turn	0	0	0	0	0
	Sideswipe	1	0	0	0	0
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	2	0	1	0	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	3	1	2	0	0
	Injury Crashes	3	6	3	1	3
LIGHT CONDITIONS	Daylite	3	5	3	1	2
	Dusk	0	2	0	0	0
	Dawn	1	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	0	0	2	0	1
	Unknown	2	0	0	0	0
WEATHER	Dry	0	5	1	0	1
	Cloudy	4	1	3	0	2
	Rain	0	1	1	1	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	1	0	0	0	0
SURFACE CONDITIONS	Dry	4	6	3	0	3
	Wet	0	1	1	1	0
	Others	1	0	1	0	0
	Unknown	1	0	0	0	0
MONTH OF YEAR	January	0	0	0	0	1
	February	0	0	0	0	1
	March	1	0	1	0	0
	April	0	1	0	0	0
	May	0	1	0	0	0
	June	1	0	2	0	0
	July	1	0	0	0	0
	August	1	1	1	0	0
	September	1	1	0	0	1
	October	1	1	1	0	0
	November	0	1	0	0	0
	December	0	1	0	1	0
DAY OF WEEK	Sunday	0	0	0	0	1
	Monday	0	1	0	1	1
	Tuesday	1	2	1	0	0
	Wednesday	0	2	0	0	0
	Thursday	3	1	1	0	0
	Friday	2	1	0	0	0
	Saturday	0	0	3	0	1
HOUR OF DAY	00:00-03:00	1	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	1	3	1	0	1
	09:00-12:00	1	1	1	0	0
	12:00-15:00	1	0	1	0	1
	15:00-18:00	1	2	1	1	0
	18:00-21:00	1	1	1	0	1
	21:00-24:00	0	0	0	0	0

# Krome Avenue at SW 184 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 10.846 to 10.946  
 ADT = 12,500 14,300 15,100 14,600 16,800  
 Nearest Node = 890  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	2	2	2	4
	Head On	0	0	0	0	0
	Angle	0	2	1	1	4
	Left Turn	0	0	2	1	0
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	1	0	1
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	1	1	1	3	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	2	1	4	6	5
	Injury Crashes	1	4	3	1	5
LIGHT CONDITIONS	Daylite	2	4	5	5	5
	Dusk	0	0	0	0	0
	Dawn	0	1	0	0	1
	Dark (w/Street Lites)	0	0	1	1	3
	Dark (wo/Street Lites)	1	0	1	1	1
	Unknown	0	0	0	0	0
WEATHER	Dry	3	2	2	6	6
	Cloudy	0	2	3	1	3
	Rain	0	1	2	0	1
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	3	2	4	6	7
	Wet	0	3	3	1	3
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	2	0	1
	February	0	0	0	0	0
	March	0	0	0	2	1
	April	1	0	0	0	0
	May	0	1	0	1	1
	June	0	0	1	1	0
	July	0	0	2	0	1
	August	0	1	0	1	2
	September	0	1	1	1	0
	October	0	1	1	0	2
	November	1	0	0	0	1
	December	1	1	0	1	1
DAY OF WEEK	Sunday	0	2	1	1	2
	Monday	2	0	2	0	1
	Tuesday	0	1	0	1	2
	Wednesday	0	0	2	0	1
	Thursday	0	1	1	2	2
	Friday	1	1	0	2	1
	Saturday	0	0	1	1	1
HOUR OF DAY	00:00-03:00	0	0	1	1	0
	03:00-06:00	0	0	1	0	2
	06:00-09:00	1	2	0	2	3
	09:00-12:00	0	0	0	0	0
	12:00-15:00	0	1	1	2	2
	15:00-18:00	1	2	3	0	1
	18:00-21:00	1	0	1	1	1
	21:00-24:00	0	0	0	1	1

# Krome Avenue at SW 168 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 11.895 to 11.995  
 ADT = 10,900 12,200 11,500 14,500 14,500  
 Nearest Node = 894  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	2	1	2	1	2
	Head On	0	0	2	0	0
	Angle	1	0	1	0	1
	Left Turn	1	0	2	0	1
	Right Turn	0	0	0	0	0
	Sideswipe	0	0	2	0	1
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	0	1	1	1	0
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	1	2	0	2
	Injury Crashes	3	1	8	2	3
LIGHT CONDITIONS	Daylite	4	2	4	1	3
	Dusk	0	0	0	0	0
	Dawn	0	0	0	0	0
	Dark (w/Street Lites)	0	0	0	0	0
	Dark (wo/Street Lites)	0	0	6	1	2
	Unknown	0	0	0	0	0
WEATHER	Dry	3	2	6	1	3
	Cloudy	0	0	4	1	2
	Rain	1	0	0	0	0
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	3	2	9	2	5
	Wet	1	0	1	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	1	1	0
	February	0	0	0	0	1
	March	0	1	0	0	0
	April	2	0	1	0	0
	May	0	0	1	0	0
	June	1	1	1	0	0
	July	0	0	0	0	1
	August	1	0	0	0	1
	September	0	0	2	0	0
	October	0	0	0	0	1
	November	0	0	2	1	1
	December	0	0	2	0	0
DAY OF WEEK	Sunday	0	1	0	0	1
	Monday	2	0	2	1	0
	Tuesday	0	0	1	1	2
	Wednesday	0	0	1	0	1
	Thursday	1	0	0	0	1
	Friday	1	0	4	0	0
	Saturday	0	1	2	0	0
HOUR OF DAY	00:00-03:00	0	0	0	0	0
	03:00-06:00	0	0	0	0	0
	06:00-09:00	1	0	1	0	2
	09:00-12:00	1	0	1	0	0
	12:00-15:00	0	1	1	0	1
	15:00-18:00	2	0	1	1	0
	18:00-21:00	0	1	3	1	0
	21:00-24:00	0	0	3	0	2

# Krome Avenue at SW 136 Street

## CRASH STATISTICS

State Road No. = 997  
 Roadway Section = 87150000  
 Mile Post Limits = 13.845 to 13.945  
 ADT = 10,900 12,200 11,500 14,500 14,500  
 Nearest Node = 897  
 Crash Rate Class Category = R-2UN

		1999	2000	2001	2002	2003
CRASH TYPE	Rear End	1	1	4	4	2
	Head On	0	0	0	0	1
	Angle	1	4	6	1	2
	Left Turn	0	6	1	1	1
	Right Turn	0	1	0	0	0
	Sideswipe	0	0	1	0	1
	Pedestrian/Bicycle	0	0	0	0	0
	Fixed Object	0	0	0	0	0
	Other	3	1	0	0	1
SEVERITY	Fatal Crashes	0	0	0	0	0
	PDO	1	2	6	1	3
	Injury Crashes	4	11	6	5	5
LIGHT CONDITIONS	Daylite	1	4	6	3	5
	Dusk	0	0	0	0	0
	Dawn	1	0	0	0	0
	Dark (w/Street Lites)	0	1	0	1	1
	Dark (wo/Street Lites)	3	8	6	2	2
	Unknown	0	0	0	0	0
WEATHER	Dry	3	9	6	3	2
	Cloudy	2	3	6	3	5
	Rain	0	1	0	0	1
	Fog	0	0	0	0	0
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
SURFACE CONDITIONS	Dry	5	11	12	6	7
	Wet	0	2	0	0	1
	Others	0	0	0	0	0
	Unknown	0	0	0	0	0
MONTH OF YEAR	January	0	0	1	1	1
	February	1	2	1	0	0
	March	2	1	1	1	0
	April	0	0	1	1	0
	May	1	3	1	0	0
	June	0	1	1	0	0
	July	1	0	1	0	0
	August	0	0	0	1	0
	September	0	1	2	1	1
	October	0	4	2	0	1
	November	0	1	0	0	1
	December	0	0	1	1	4
DAY OF WEEK	Sunday	1	1	3	0	1
	Monday	0	1	3	0	1
	Tuesday	2	5	0	1	1
	Wednesday	0	1	1	0	0
	Thursday	0	1	2	0	2
	Friday	1	0	0	1	0
	Saturday	1	4	3	4	3
HOUR OF DAY	00:00-03:00	0	4	2	0	0
	03:00-06:00	1	0	0	0	0
	06:00-09:00	1	2	2	1	2
	09:00-12:00	0	1	0	0	0
	12:00-15:00	0	1	2	0	2
	15:00-18:00	1	1	1	2	0
	18:00-21:00	0	1	3	1	1
	21:00-24:00	2	3	2	2	3

**Krome Avenue at SW 296 Street  
(BMP 3.777 - EMP 3.877)**

Year	Number of Crashes	ADT (VPM)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes	Total Economic Loss
1999	4	16,300	0.672	1.534	1.645	2.285	0.294	4	0	\$875,600
2000	7	13,900	1.380	1.534	1.645	2.340	0.590	4	0	\$1,532,300
2001	4	11,700	0.937	1.534	1.645	2.403	0.390	3	0	\$875,600
2002	1	14,100	0.194	0.739	1.645	1.265	0.154	1	0	\$218,900
2003	11	11,600	2.598	0.739	1.645	1.308	1.986	6	0	\$2,407,900

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**Krome Avenue at SW 288 Street  
(BMP 4.272 - EMP 4.372)**

Year	Number of Crashes	ADT (vpd)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	7	12,000	1.598	1.534	1.645	2.393	0.668	6	0
2000	1	13,600	0.201	1.534	1.645	2.348	0.086	0	0
2001	6	13,500	1.218	1.534	1.645	2.350	0.518	4	0
2002	7	14,100	1.360	0.739	1.645	1.265	1.075	4	1
2003	3	16,200	0.507	0.739	1.645	1.236	0.410	1	1

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**Krome Avenue at SW 272 Street  
(BMP 5.292 - EMP 5.392)**

Year	Number of Crashes	ADMT (VMT)	Actual Crash Rate	Average Crash Rate	K <sub>100</sub>	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	6	12,000	1.370	1.534	1.645	2.393	0.572	4	0
2000	7	13,600	1.410	1.534	1.645	2.348	0.601	5	0
2001	7	13,500	1.421	1.534	1.645	2.350	0.604	5	0
2002	6	14,100	1.166	0.739	1.645	1.265	0.921	3	1
2003	2	16,200	0.338	0.739	1.645	1.236	0.274	1	0

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**Krome Avenue at SW 264 Street  
(BMP 5.798 - EMP 5.898)**

Year	Number of Crashes	ADT (Vpd)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	4	12,000	0.913	1.534	1.645	2.393	0.382	3	1
2000	4	13,600	0.806	1.534	1.645	2.348	0.343	1	0
2001	7	13,500	1.421	1.534	1.645	2.350	0.604	4	0
2002	2	14,100	0.389	0.739	1.645	1.265	0.307	0	0
2003	2	16,200	0.338	0.739	1.645	1.236	0.274	0	0

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**Krome Avenue at SW 256 Street  
(BMP 6.307 - EMP 6.407)**

Year	Number of Crashes	ADT (VAD)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	4	12,000	0.913	1.534	1.645	2.393	0.382	2	0
2000	1	13,600	0.201	1.534	1.645	2.348	0.086	1	0
2001	2	13,500	0.406	1.534	1.645	2.350	0.173	2	2
2002	5	14,100	0.972	0.739	1.645	1.265	0.768	5	0
2003	7	16,200	1.184	0.739	1.645	1.236	0.958	6	0

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**Krome Avenue at SW 248 Street  
(BMP 6.809 - EMP 6.909)**

Year	Number of Crashes	ADT (vpd)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	8	12,000	1.826	1.534	1.645	2.393	0.763	4	0
2000	4	13,600	0.806	1.534	1.645	2.348	0.343	2	0
2001	5	13,500	1.015	1.534	1.645	2.350	0.432	4	0
2002	6	14,100	1.166	0.739	1.645	1.265	0.921	5	0
2003	10	16,200	1.691	0.739	1.645	1.236	1.368	2	0

33

**Krome Avenue at SW 232 Street  
(BMP 7.829 - EMP 7.929)**

Year	Number of Crashes	ADT (vpd)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	5	12,000	1.142	1.534	1.645	2.393	0.477	4	0
2000	4	13,600	0.806	1.534	1.645	2.348	0.343	2	0
2001	4	13,500	0.812	1.534	1.645	2.350	0.345	2	0
2002	8	14,100	1.554	0.739	1.645	1.265	1.229	1	0
2003	9	16,200	1.522	0.739	1.645	1.236	1.231	7	0

30

**Krome Avenue at SW 216 Street  
(BMP 8.835 - EMP 8.935)**

Year	Number of Crashes	ADT (Mtd)	Normal Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	4	12,500	0.877	1.534	1.645	2.378	0.369	3	0
2000	3	14,300	0.575	1.534	1.645	2.330	0.247	2	0
2001	5	15,100	0.907	1.534	1.645	2.311	0.393	3	0
2002	2	14,600	0.375	0.739	1.645	1.258	0.298	2	0
2003	4	16,800	0.652	0.739	1.645	1.229	0.531	2	0

18

**Krome Avenue at SW 200 Street  
(BMP 9.834 - EMP 9.934)**

Year	Number of Crashes	ADT (VPM)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	2	12,500	0.438	1.534	1.645	2.378	0.184	1	0
2000	8	14,300	1.533	1.534	1.645	2.330	0.658	3	0
2001	9	15,100	1.633	1.534	1.645	2.311	0.707	6	0
2002	4	14,600	0.751	0.739	1.645	1.258	0.597	3	0
2003	2	16,800	0.326	0.739	1.645	1.229	0.265	1	0

25

**Krome Avenue at SW 192 Street  
(BMP 10.339 - EMP 10.439)**

Year	Number of Crashes	ADMT (VMT)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	6	12,500	1.315	1.534	1.645	2.378	0.553	3	0
2000	7	14,300	1.341	1.534	1.645	2.330	0.576	6	0
2001	5	15,100	0.907	1.534	1.645	2.311	0.393	3	0
2002	1	14,600	0.188	0.739	1.645	1.258	0.149	1	0
2003	3	16,800	0.489	0.739	1.645	1.229	0.398	3	0

22

**Krome Avenue at SW 184 Street  
(BMP 10.846 - EMP 10.946)**

Year	Number of Crashes	ADT (VTD)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	3	12,500	0.658	1.534	1.645	2.378	0.276	1	0
2000	5	14,300	0.958	1.534	1.645	2.330	0.411	4	0
2001	7	15,100	1.270	1.534	1.645	2.311	0.550	3	0
2002	7	14,600	1.314	0.739	1.645	1.258	1.044	1	0
2003	10	16,800	1.631	0.739	1.645	1.229	1.327	5	0

32



**Krome Avenue at SW 168 Street  
(BMP 11.848 - EMP 11.995)**

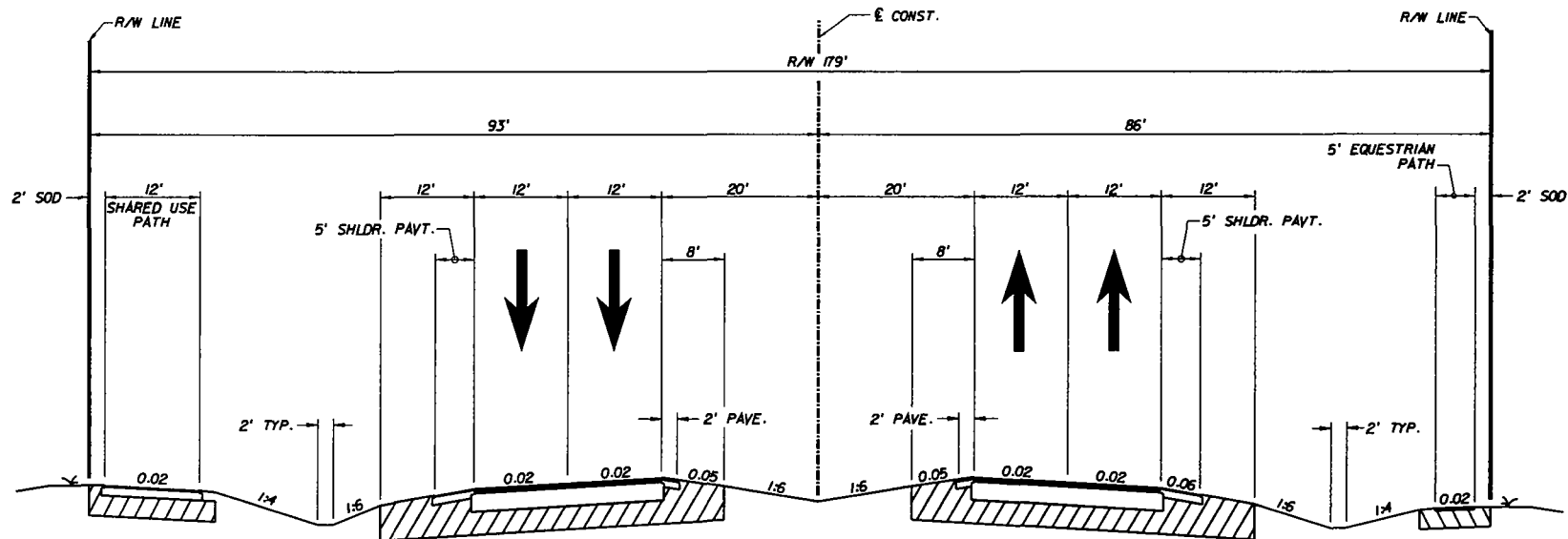
Year	Number of Crashes	ADT (VPH)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	4	10,900	1.005	1.534	1.645	2.430	0.414	3	0
2000	2	12,200	0.449	1.534	1.645	2.387	0.188	1	0
2001	10	11,500	2.382	1.534	1.645	2.409	0.989	8	1
2002	2	14,500	0.378	0.739	1.645	1.259	0.300	2	0
2003	5	14,500	0.945	0.739	1.645	1.259	0.750	3	0

23

**Krome Avenue at SW 136 Street  
(BMP 13.845 - EMP 13.945)**

Year	Number of Crashes	ADT (Vpd)	Actual Crash Rate	Average Crash Rate	K	Critical Crash Rate	Safety Ratio	Injury Crashes	Fatal Crashes
1999	5	10,900	1.257	1.534	1.645	2.430	0.517	4	0
2000	13	12,200	2.919	1.534	1.645	2.387	1.223	9	2
2001	12	11,500	2.859	1.534	1.645	2.409	1.187	6	0
2002	6	14,500	1.134	0.739	1.645	1.259	0.900	5	0
2003	8	14,500	1.512	0.739	1.645	1.259	1.200	5	0

44



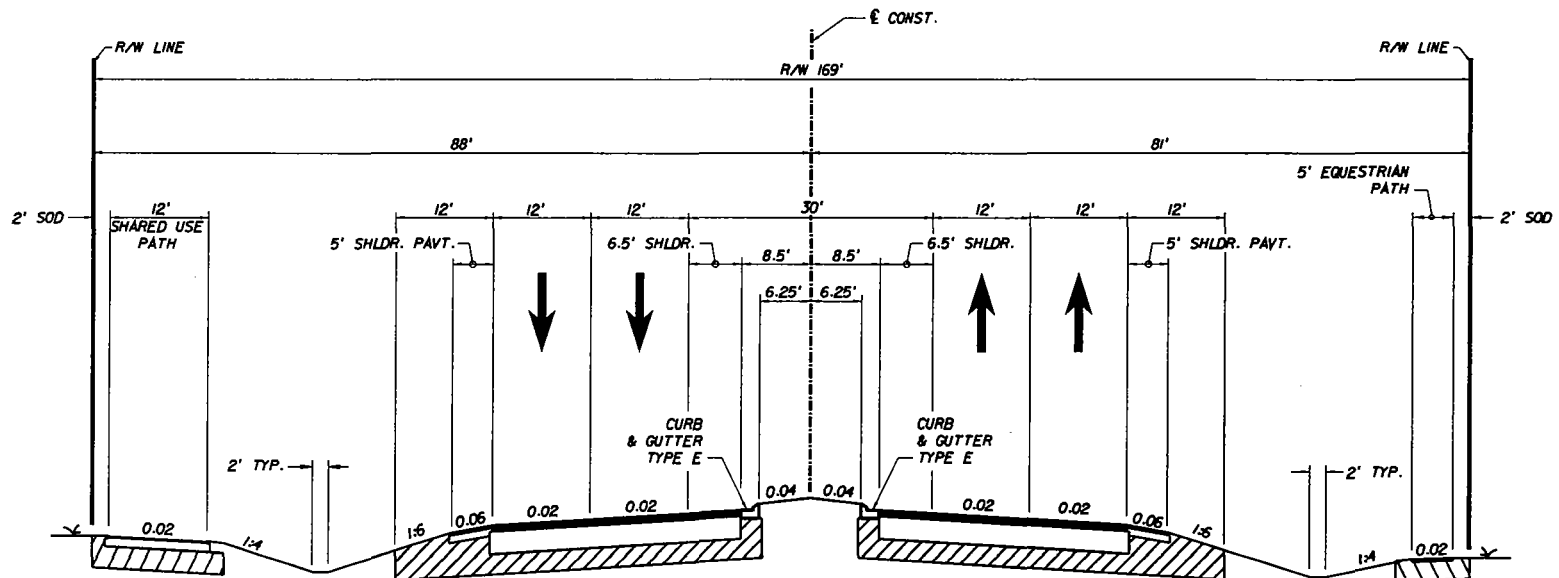
REVISIONS						STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			KROME AVE - TYP. SECTION ALTERNATIVE 1	FIGURE NO.  2
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
								- - -		

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID

**KROME AVE - TYP. SECTION  
ALTERNATIVE 2**

FIGURE  
NO.  
**3**

USER#

5/2/2005

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## **APPENDIX G**

### *State Historic Preservation Officer Correspondence*



## FLORIDA DEPARTMENT of STATE

RICK SCOTT  
Governor

KEN DETZNER  
Secretary of State

Ms. Cathy Kendall  
US Department of Transportation  
Federal Highway Administration  
Florida Division Office  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

August 24, 2012



RE: DHR No.: 2012-3489 (x-ref: 2007-3203)/Received by DHR: July 30, 2012  
Financial Management No.: 249614-4-22-01/ETDM No. 7800  
Project: *State Road (SR) 997/SW 177<sup>th</sup> Avenue/Krome Ave From SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street*  
County: Miami-Dade

Dear Ms. Kendall:

Our office received and reviewed the referenced case study report in accordance with Section 106 of the National Historic Preservation Act of 1966, *as amended*, and implementing regulations 36 C.F.R. Part 800 and Chapter 267, *Florida Statutes*, for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). The State Historic Preservation Officer is to advise and assist state and federal agencies assessing effects on this property and considering alternatives to avoid or minimize adverse effects.

The current report is an update to the previous project review in 2007 (2007-3203). The Federal Highway Administration (FHWA) has determined no historic properties will be adversely affected by the five proposed alternatives for this project. This office concurs with the determinations of the FHWA with one exception. Based on the conditions set forth in the 2007 report and the eligibility of the Howard Schaff Residence/27450 SW 177<sup>th</sup> Avenue (8DA9674) this office finds that the removal of the mango trees on the property necessitated by Alternative 3 is an adverse effect. However, Alternatives 1, 2, 4, and 5 would not have an adverse impact on the Schaff Residence or any of the other identified historic properties.

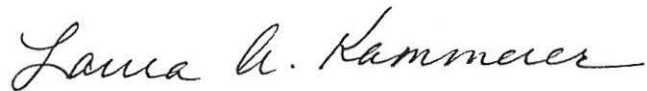
DIVISION OF HISTORICAL RESOURCES  
R. A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250  
Telephone: 850.245.6300 • Facsimile: 850.245.6439 • [www.flheritage.com](http://www.flheritage.com)  
*Commemorating 500 years of Florida history* [www.fla500.com](http://www.fla500.com)



Ms. Cathy Kendall  
DHR No.: 2012-3489  
August 24, 2012  
Page 2

If there are any questions concerning our comments or recommendations, please contact Ginny Jones, Architectural Historian, by phone at 850.245.6333, or by electronic mail at [ginny.jones@dos.myflorida.com](mailto:ginny.jones@dos.myflorida.com).

Sincerely,

A handwritten signature in cursive script that reads "Laura A. Kammerer".

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

PC: Barbara Culhane, FDOT D. 6, Miami  
Roy Jackson, FDOT CEMO, Tallahassee/#5500

Enclosure



06 2 12 1:08 PM

## Florida Department of Transportation

RICK SCOTT  
GOVERNOR

1000 NW 111 Avenue  
Miami, Florida 33172-5800

ANANTH PRASAD, P.E.  
SECRETARY

June 28, 2012

Mr. Martin Knopp, P.E.  
Division Administrator  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303  
**Attention: Mr. Buddy Cunill, Environmental Coordinator**

Mr. Robert Bendus  
Director of Cultural and Historical Programs  
Division of Historical Resources and  
State Historic Preservation Officer  
R. A. Gray Building  
500 South Bronough Street  
Tallahassee, FL 32399-0250  
**Attention: Ms. Laura Kammerer, Historic Preservationist Supervisor**

2012 JUL 30 PM 1:50

Subject: Addendum to the Cultural Resource Assessment Survey (CRAS) for SR 997 / SW 177<sup>th</sup> Avenue / Krome Avenue From SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street  
Miami-Dade County, Florida  
FM NO.: 249614-4-22-01  
ETDM No. 7800

Dear Mr. Bendus:

Please find enclosed a copy of the final report for the above-referenced project, Florida Master Site File forms, and a complete survey log sheet for your review and comment. In 2005, Janus Research conducted a CRAS of *Krome Avenue (SW 177<sup>th</sup> Avenue/ State Road (SR)-997) from SW 296<sup>th</sup> Street (Avocado Drive) to SW 136<sup>th</sup> Street (Howard Drive) in Miami-Dade County, Florida* at the request of the Florida Department of Transportation (FDOT) District 6. The objective was to document the historic and archaeological resources within the proposed project area of potential effect (APE), and assess them in terms of their eligibility for listing in the National Register of Historic Places (National Register) according to the criteria set forth in 36 CFR Section 60.4. The CRAS resulted in the identification of five previously recorded historic resources (8DA2764, 8DA2765, 8DA2818, 8DA6762, and 8DA9603), one golf course (8DA10051), and 27 newly recorded historic buildings (8DA9669-8DA9672, 8DA9674-96).



Since the time of the previous study, an additional alternative has been added to the proposed improvements. An addendum to the *CRAS of Krome Avenue (SW 177<sup>th</sup> Avenue/SR-997) from SW 296<sup>th</sup> Street (Avocado Drive) to SW 136<sup>th</sup> Street (Howard Drive)* was requested by the FDOT, District 6. The objectives were to identify any additional cultural resources within the proposed APE which were not considered historic at the time of the previous CRAS, assess them in terms of their eligibility for listing in the National Register according to the criteria set forth in 36 CFR Section 60.4, and examine the potential effects of the project.

The CRAS Addendum resulted in the identification of 11 newly recorded historic resources within the project APE (8DA10753, 8DA12347-8DA12356). One of the newly recorded resources, the Seaboard Air Line (CSX) Railway (8DA10753), is considered eligible for listing in the National Register. The remaining ten historic resources are considered ineligible for listing in the National Register.

---

In summary, based on the project information available the improvements will have no adverse effect on the significant historic resources. The qualities which qualify the Howard Schaff Residence/27450 SW 177<sup>th</sup> Avenue (8DA9674), Clarence J. Parman Residence/27250 SW 177<sup>th</sup> Avenue (8DA9675), Redlands Golf Course (8DA10051), and the Seaboard Air Line (CSX) Railroad (8DA10753) for listing in the National Register will not be adversely affected by the proposed improvements. In addition, the historic resources located at 27101 SW 177<sup>th</sup> Avenue, 26430 SW 177<sup>th</sup> Avenue, 20901 SW 177<sup>th</sup> Avenue, and 20345 SW 177<sup>th</sup> Avenue which were not documented during this study as they are not visible from the ROW, will not be adversely affected due to their distance and buffer from the proposed improvements.

The No Build Alternative, Action Plan Alternative, and Alternatives 1, 2, 3, 4, and 5 will have no adverse effect on the Howard Schaff Residence/27450 SW 177<sup>th</sup> Avenue (8DA9674), Clarence J. Parman Residence/27250 SW 177<sup>th</sup> Avenue (8DA9675), Redlands Golf Course (8DA10051), and the Seaboard Air Line (CSX) Railroad (8DA10753). At the locations of the two significant residences, the Howard Schaff Residence/27450 SW 177<sup>th</sup> Avenue (8DA9674) and the Clarence J. Parman Residence/27250 SW 177<sup>th</sup> Avenue (8DA9675), all work will be occurring within the existing ROW for Alternatives 1, 2, 4 and 5, and there will be no adverse effect to the resources. A small acquisition of ROW from the residences is necessary for Alternative 3; however, due to the large distance from the roadway to the residences, they will not be adversely affected by the proposed improvements. A noise analysis was undertaken for both residences, and based on the predicted noise levels and the assumed conditions, use of the interior spaces of the residences will not be impacted by the project. Exterior noise impacts are considered unavoidable at the Clarence J. Parman Residence, but no exterior noise impacts are predicted at the Howard Schaff Residence.

A small portion of ROW from the Redlands Golf Course (8DA10051) is required as part of the proposed improvements for Alternatives 1, 2, 3, 4, and 5. With the exception of this area of ROW acquisition, the improvements for the build alternatives will all take place within the existing ROW at the golf course and there will be no alterations to the physical dimensions or

June 28, 2012  
Mr. Robert Bendus  
Krome Avenue South  
Page 3

course layout as a result of the roadway improvements. Additionally, the noise analysis revealed that areas of frequent human use on the country club property would not be impacted by traffic noise due to the project. Therefore, there will be no adverse effect to the Redlands Golf Course (8DA10051) as a result of Alternatives 1, 2, 3, 4, and 5.

Alternatives 1, 2, 3, 4, and 5 will require roadway construction and the installation of a shared path at the intersection of the Seaboard Air Line (CSX) Railroad (8DA10753) and Krome Avenue within the project APE. However, it is only to a small portion of the track within the overall CSX system that is comprised of hundreds of miles of track, the rail corridor will still be used for rail travel, and the overall route will remain unchanged. As a result of Alternatives 1, 2, 3, 4, and 5, there will be no adverse effect to the characteristics which qualify the Seaboard Air Line (CSX) Railroad (8DA10753) for listing in the National Register.

No archaeological resources were identified during the previous surveys of the project APE. An updated search of the FMSF and Miami-Dade County local data resulted in no previously recorded archaeological sites identified within one mile of the project APE. No further archaeological work is recommended.

Please review the submitted materials and provide a determination on the significance of the documented resources and potential effects to the previously identified significant resources. This information is being provided in accordance with *Section 106 of the National Historic Preservation Act of 1966*. If you have questions or need additional information regarding subject documentation please contact me at 305-470-5221.

Sincerely,

A handwritten signature in black ink, appearing to read 'Barbara Culhane', with a large, stylized initial 'B'.

Barbara Culhane  
District Cultural Resources Coordinator

Attachments

cc: Jorge Gomez, FDOT  
Amy Streelman, Janus Research

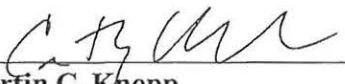
June 28, 2012  
Mr. Robert Bendus  
Krome Avenue South  
Page 4

The FHWA finds the attached Addendum to the Cultural Resources Assessment Report complete and sufficient and ☒ approves / ☐ does not approve the above recommendations and findings.

The FHWA requests the SHPO's opinion on the sufficiency of the attached report and the SHPO's opinion on the recommendations and findings contained in this cover letter and in the comment block below.

**FHWA Comments:**

It is FHWA's intent that for very small acquisitions of the historic properties that result in a "no adverse effect" finding, a Section 4(f) de minimis finding would also be made.

*for* /s/   
Martin C. Knopp  
Division Administrator  
Florida Division  
Federal Highway Administration

7/27/12  
Date

**The Florida State Historic Preservation Officer:**

☒ finds the attached report complete and sufficient and ☐ concurs/ ☒ does not concur with the findings and recommendations contained in this cover letter.

☐ does not find the attached report complete and sufficient and requires additional information in order to provide an opinion on the potential effects of the proposed project on historic resources.

/s/ See letter dated 8/24/12  
Robert F. Bendus  
Florida State Historic Preservation Officer

8.24.2012  
Date

2012-3489  
DHR Project No.



FLORIDA DEPARTMENT OF STATE  
**Kurt S. Browning**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. David C. Gibbs  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, FL 32303

May 7, 2007

RE: DHR Project File Number: 2007-3203  
Received by DHR: March 8, 2007  
RAI Received by DHR: April 1, 2007  
Project: *Section 106 Documentation and Determination of Effects SR 997/Krome Avenue from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street*  
Financial Management Numbers: 249614-4-21-02  
Counties: Miami-Dade

Dear Mr. Gibbs:

Our office received and reviewed the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966 as amended, 36 CFR Part 800: Protection of Historic Properties, and Chapter 267, Florida Statutes. It is the responsibility of the State Historic Preservation Officer to advise and assist, as appropriate, Federal and State agencies in carrying out their historic preservation responsibilities; to cooperate with Federal and State agencies to ensure that historic properties are taken into consideration at all levels of planning and development; and to consult with the appropriate Federal agencies in accordance with the National Historic Preservation Act of 1966 as amended, on Federal undertakings that may affect historic properties and the content and sufficiency of any plans developed to protect, manage, or to reduce or mitigate harm to such properties.

A survey was previously conducted to identify historic structures or archaeological sites within the area of potential effect of the proposed undertaking and three significant historic resources were identified: the *Howard Schaff Residence* (8DA9674), the *Clarence J. Parman Residence* (8DA9675), and the *Redland Golf Course* (8DA10051). The Federal Highway Administration (FHWA) has determined that Alternatives 1 and 2 will not require any additional right of way (ROW) from the *Schaff* and *Parman Residences* and will, therefore, have no effect on these resources. Alternative 3 and 4 do require additional ROW from the *Schaff Residence* (.28 and .02 acres respectively) and the *Parman Residence* (.06 and .005 acres respectively) but no historic features will be removed and the at-grade roadway will not introduce any visual/aesthetic impacts. Consequently, the FHWA has concluded that Alternatives 3 and 4 will have no adverse effect on the *Schaff* and *Parman Residences*.

Alternatives 1, 2, 3, and 4 were found to have no adverse effect on the *Redland Golf Course*. Although all the alternatives will take additional ROW (.12 acres for Alternatives 1 and 2; 1.10 acres for Alternative

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research  
(850) 245-6444 • FAX: 245-6452

☒ Historic Preservation  
(850) 245-6333 • FAX: 245-6437

☐ Historical Museums  
(850) 245-6400 • FAX: 245-6433

☐ Southeast Regional Office  
(561) 416-2115 • FAX: 416-2149

☐ Northeast Regional Office  
(904) 825-5045 • FAX: 825-5044

☐ Central Florida Regional Office  
(813) 272-3843 • FAX: 272-2340

Mr. David C. Gibbs  
May 7, 2007  
Page 2

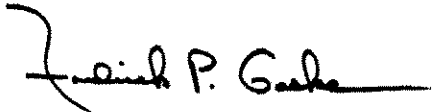
3; and .21 acres for Alternative 4), the acquisitions remain at the perimeter of the property and the golf course itself will not be affected. Additionally, no trees are to be removed along this perimeter. The at-grade roadway in this location will not introduce any visual/aesthetic effects.

Based on the information provided, our office concurs with these determinations conditional on the following:

- The large mango trees and oolitic limestone pedestals in front of the *Schaff Residence* will not be removed. These historic features will be cordoned off in order to protect them during staging and construction activities.
- No trees that provide a visual barrier between the golf course and the roadway will be removed.
- Noise barrier analysis will be submitted to our office for review and comment once the preferred alternative is chosen.

If you have any questions, please contact Sherry Anderson, Architectural Historian, Transportation Compliance Review Program, by email [sanderson@dos.state.fl.us](mailto:sanderson@dos.state.fl.us), or at 850-245-6432.

Sincerely,

A handwritten signature in black ink, appearing to read "Frederick P. Gaske", with a long horizontal flourish extending to the right.

Frederick P. Gaske, Director, and  
State Historic Preservation Officer

XC: Ms. Alice Bravo, FDOT, District 6  
Ms. Catherine Owen, FDOT, District 6  
Roy Jackson, FDOT CEMO  
Amy Streelman, Janus Research



## Florida Department of Transportation

CHARLIE CRIST  
GOVERNOR

District VI  
Planning and Environmental  
Management Office  
1000 Northwest 111<sup>th</sup> Avenue  
Miami, Florida 33172

STEPHANIE KOPELOUSOS  
INTERIM SECRETARY

January 30, 2007

Mr. David C. Gibbs, Division Administrator  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

Attention: Greg Williams, District Transportation Engineer

Re: **Request for Section 106 Concurrence of Effect**  
SR 997/Krome Avenue/SW 177<sup>th</sup> Avenue ("Krome South PD&E Study")  
From: SW 296<sup>th</sup> Street/Avocado Drive  
To: SW 136<sup>th</sup> Street/Howard Drive  
Financial Management No.: 249614-4-21-01  
Federal Aid Project No.: Not Assigned  
County: Miami-Dade

Dear Mr. Gibbs:

Enclosed please find a Section 106 Documentation and Determination of Effects Report for the above-referenced Environmental Impact Statement project. Krome Avenue, part of the Florida Intrastate Highway System, provides regional connectivity and serves as an alternate hurricane evacuation route to US-1 and the Florida Turnpike for those living in south Miami-Dade County. The existing corridor is physically and functionally deficient, and can neither meet the current needs nor future demands of the area with regard to safety and mobility. The existing typical section varies slightly, consisting primarily of two lanes varying in width from 10.5 to 12 feet, paved shoulders ranging from no shoulder to five feet in width, and roadside swales. The PD&E Study alternatives include the No Build, Transportation System Management, and four Build Alternatives (consisting of two, three, and four lane typical sections). All alternatives include an evaluation of preservation of the rural character of the corridor while providing for safety and operational improvements.

The following resources were identified in the Cultural Resource Assessment Survey (CRAS) and CRAS Addendum as being eligible for listing in the National Register of Historic Places (NRHP):

- *Howard Schaff Residence, 27450 SW 177<sup>th</sup> Avenue (8DA9674)*
- *Clarence J. Parman Residence, 27250 SW 177<sup>th</sup> Avenue (8DA9675)*
- *Redland Golf Course (8DA10051)*



The FHWA transmitted the CRAS to the State Historic Preservation Officer (SHPO) on April 6, 2005, and a CRAS Addendum on June 28, 2005. The SHPO subsequently concurred with these findings on August 1, 2005 (DHR Project File No. 2005-3375).

The following is a summary description of the project's proposed improvements for the four Build Alternatives (refer to Proposed Alternatives section of the attached report for descriptions of Alternatives 1 & 2 [Two-lane divided roadway], and 3 & 4 [Four-lane divided roadway], with typical section widths of 148, 160, 206 & 172 feet, respectively), with respect to each of the three resources listed above:

*Howard Schaff Residence, 27450 SW 177<sup>th</sup> Avenue (8DA9674):*

This resource is located on the west side of Krome Avenue/SW 177 Avenue, between SW 278 and 272 Streets (adjacent to 8DA9675). For all four Build Alternatives, no traffic noise impacts or air quality impacts will occur. The existing vehicular access to the property (as well as parking) will not be impacted. For both Alternatives 1 and 2, no additional right-of-way is required from the property. Alternatives 3 and 4 will include right-of-way acquisition from this property. Alternative 3 requires 12,365.4 square feet (0.28 acres) along the portion of the property closest to Krome Avenue. The needed right-of-way extends across the entire width of the parcel, which is 668.4 feet. The house is located on a 20-acre piece of property, and is set back from Krome Avenue. With the acquisition of this portion of property, the proposed improvements will be 187.5 feet from the house. Alternative 4 requires 1,002.6 square feet (0.02 acres) along the portion of the property closest to Krome Avenue. With the acquisition of this portion of property, the proposed improvements will be 204.5 feet from the house.

Alternatives 1 and 2 will have no effect on the resource, and the characteristics that qualify it for listing in the NRHP will not be affected. Both Alternatives 3 and 4 will require right-of-way acquisition on the east side of the property. The acquisition for both of these alternatives does not require the removal of contributing resources on the property, and it will not impact the character or function of this historic resource or affect its historic and architectural significance, which is primarily associated with the original owner and the building's architecture. Because the improvements will also be at-grade, the views to or from the historic resource will not be diminished, so there will not be any visual/aesthetic effects. Alternatives 3 and 4 will have no adverse effect on the NRHP-eligible resource and the characteristics that qualify it for listing in the NRHP (refer to Effects to Historic Resources section of the attached report).

*Clarence J. Parman Residence, 27250 SW 177<sup>th</sup> Avenue (8DA9675):*

This resource is located on the west side of Krome Avenue/SW 177 Avenue, between SW 278 and 272 Streets (adjacent to 8DA9674). For all four build alternatives, no traffic noise impacts or air quality impacts will occur. The existing vehicular access to the property (as well as parking) will not be impacted. For both Alternatives 1 and 2, no additional right-of-way is required from the property. Alternatives 3 and 4 will include right-of-way acquisition from this property. Alternative 3 requires

2,471.6 square feet (0.06 acres) along the portion of the property closest to Krome Avenue. The needed right-of-way extends across the entire width of the parcel, which is 133.6 feet. The house is located on a 6-acre piece of property, and is set back from Krome Avenue. With the acquisition of this portion of property, the proposed improvements will be 51.2 feet from the house. Alternative 4 requires 200.4 square feet (0.005 acres) along the portion of the property closest to Krome Avenue. With the acquisition of this portion of property, the proposed improvements will be 68.2 feet from the house.

Alternatives 1 and 2 will have no effect on the resource, and the characteristics that qualify it for listing in the NRHP will not be affected. Both Alternatives 3 and 4 will require right-of-way acquisition on the east side of the property. The acquisition for both of these alternatives does not require the removal of contributing resources on the property, and it will not impact the character or function of this historic resource or affect its historic and architectural significance, which is primarily associated with the original owner and the building's architecture. Because the improvements will also be at-grade, the views to or from the historic resource will not be diminished, so there will not be any visual/aesthetic effects. Alternatives 3 and 4 will have no adverse effect on the NRHP-eligible resource and the characteristics that qualify it for listing in the NRHP (refer to Effects to Historic Resources section of the attached report).

#### *Redland Golf Course (8DA10051)*

This resource is located on the east side of Krome Avenue/SW 177 Avenue, north of SW 245 Terrace/SW 246 Street. For all four build alternatives, no traffic noise impacts or air quality impacts will occur. The existing vehicular access to the property (as well as parking) will not be impacted. Right-of-way acquisition is needed for all four Build Alternatives; however, the overall total size of the golf course is 117 acres. For Alternatives 1 and 2, 4,992 square feet (0.12 acres) is required along the portion of the property closest to Krome Avenue. The portion of property to be acquired is quite small and does not appear to encroach upon the actual golf course itself, but is confined to the course property perimeter closest to the road. Alternative 3 requires 48,151 square feet (1.10 acres) along the portion of the property closest to Krome Avenue. Although this alternative requires the largest amount of property of the four build alternatives, the acquisitions still remain at the perimeter of the golf course property closest to the road. Alternative 4 requires 9,126 square feet (0.21 acres) along the portion of the property closest to Krome Avenue. The portion of property to be acquired is quite small and does not appear to encroach upon the actual golf course itself, but is confined to the course property perimeter closest to the road.

Upon evaluating the four proposed build alternatives, it has been determined that Alternatives 1, 2, 3, and 4 will have no adverse effect on the NRHP-eligible golf course and the characteristics that qualify it for listing in the NRHP. Because the improvements will be at-grade, the views to or from the historic resource will not be diminished, so there will not be any visual/aesthetic effects. All Alternatives will require right-of-way acquisition on the west side of the property, which does fall within the historic property boundaries. The right-of-way acquisition for these alternatives does not



Mr. David C. Gibbs  
January 30, 2007  
Page 4

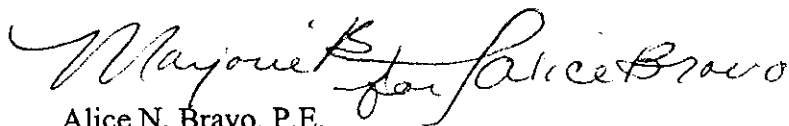
require the removal of contributing resources on the property, and it will not impact the character or function of this historic resource or affect its significance, which is primarily associated with the original golf course designer and the original front nine holes.

Based on information provided in the Section 106 Documentation and Determination of Effects Report, the following concurrences of effect are requested:

- *Howard Schaff Residence, 27450 SW 177<sup>th</sup> Avenue (8DA9674)*: "No effect" for Alternatives 1 and 2; "No adverse effect" for Alternatives 3 and 4;
- *Clarence J. Parman Residence, 27250 SW 177<sup>th</sup> Avenue (8DA9675)*: "No effect" for Alternatives 1 and 2; "No adverse effect" for Alternatives 3 and 4;
- *Redland Golf Course (8DA10051)*: "No adverse effect" for Alternatives 1, 2, 3 and 4.

This information is being provided in accordance with the provisions of the National Historic Preservation Act of 1966, as amended, which are implemented by the procedures contained in 36 C.F.R., Part 800, as amended, as well as the provisions contained in the revised F.S. Chapter 267. If you have any questions regarding the subject project, please contact Marjorie Bixby, District Environmental Administrator, or Catherine Owen, District Cultural Resource Coordinator, at (305) 470-5220.

Sincerely,

A handwritten signature in cursive script that reads "Marjorie Bixby for Alice Bravo".

Alice N. Bravo, P.E.  
District Planning and Environmental Management Engineer

ANB/cbo/cbo  
Attachments

cc: Catherine Owen, FDOT  
Monica Cejas, FDOT  
Susanne Travis, FDOT  
Marjorie Bixby, FDOT  
Roy Jackson, FDOT  
Amy Streelman, Janus Research



FLORIDA DEPARTMENT OF STATE  
**Glenda E. Hood**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. Robert S. Wright  
Acting Division Administrator  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, FL 32303

August 1, 2005

RE: DHR Project File Number: 2005-3375  
Received by DHR: April 8, 2005; RAI received July 1, 2005  
Financial Management No.: 249614-4-21-01  
Project: *Cultural Resource Assessment Survey. SR 997/Krome Avenue/SW 117<sup>th</sup> Avenue*  
*("Krome South PD&E Study") from SW 296<sup>th</sup> Street/Avocado Drive to SW 136<sup>th</sup>*  
*Street/Howard Drive*  
County: Miami-Dade

Dear Mr. Wright:

Our office received and reviewed the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, 36 CFR Part 800: Protection of Historic Properties, Chapter 267, Florida Statutes, and applicable local ordinances. It is the responsibility of the State Historic Preservation Officer to advise and assist, as appropriate, Federal and State agencies and local governments in carrying out their historic preservation responsibilities; to cooperate with Federal and State agencies to ensure that historic properties are taken into consideration at all levels of planning and development; and to consult with the appropriate Federal agencies in accordance with the National Historic Preservation Act of 1966, as amended, on Federal undertakings that may affect historic properties and the content and sufficiency of any plans developed to protect, manage, or to reduce or mitigate harm to such properties.

A survey was conducted to identify historic structures or archaeological sites within the Area of Potential Effect (APE) of the proposed undertaking and to assess the effects of the project on those historic properties. Results of the survey and a request for additional information from our office resulted in the identification of six previously recorded buildings (8DA2764-2765, 8DA2817-2818, 8DA6762, and 8DA9603), one historic golf course (8DA10051), and 27 newly identified historic buildings (8DA9669-9672 and 9674-9696). Of the previously recorded buildings, one (8DA2817) has been demolished.

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

<input type="checkbox"/> Director's Office (850) 245-6300 • FAX: 245-6435	<input type="checkbox"/> Archaeological Research (850) 245-6444 • FAX: 245-6436	<input checked="" type="checkbox"/> Historic Preservation (850) 245-6333 • FAX: 245-6437	<input type="checkbox"/> Historical Museums (850) 245-6400 • FAX: 245-6433
<input type="checkbox"/> Palm Beach Regional Office (561) 279-1475 • FAX: 279-1476	<input type="checkbox"/> St. Augustine Regional Office (904) 825-5045 • FAX: 825-5044	<input type="checkbox"/> Tampa Regional Office (813) 272-3843 • FAX: 272-2340	

Mr. Robert S. Wright  
August 1, 2005  
Page 2

Based on the information provided, our office concurs that the *Howard Schaff Residence* (8DA9674) and the *Clarence J. Parman Residence* (8DA9675) are potentially eligible for listing on the National Register of Historic Places (NRHP). Sherry Anderson and Scott Edwards from our office reviewed the information regarding the *Redlands Golf Course* (8DA10051) and have concluded that this resource is also potentially eligible for listing. In addition to its association with the development of the Redlands community, the front nine holes were designed by prominent golf course architect, Robert "Red" Lawrence, in 1947. The original golf course has retained its historic physical integrity and is one of Lawrence's earliest designs.

Please note that we cannot determine the potential eligibility of the following resources at this time because they were inaccessible to the surveyors.

Site Name	FMSF #
16405 S.W. 177 <sup>th</sup> Avenue	
17101 S.W. 177 <sup>th</sup> Avenue	8DA9695
20345 S.W. 177 <sup>th</sup> Avenue	
26430 S.W. 177 <sup>th</sup> Avenue	

Because these resources are located within the project's APE, our office should be consulted about their potential eligibility when the properties become accessible. Although 8DA9695 was surveyed, the building is mostly obscured and the surveyor was unable to discern the style and plan of the house. We concur that the remaining buildings (8DA2764-2765, 8DA2818, 8DA6762, 8DA9603, 8DA9669-9672, 8DA9676-9694, and 8DA9696) are ineligible.

We look forward to further consultation with your office regarding potential effects to the significant properties listed herein. If you have any questions concerning our comments, please contact Sherry Anderson, Architectural Historian, Transportation Compliance Review Program, at 850-245-6432 or by electronic mail at [sanderson@dos.state.fl.us](mailto:sanderson@dos.state.fl.us).

Sincerely,

*Barbara C. Mattick*  
*Deputy SHPO*

*for* Frederick P. Gaske, Director, and  
State Historic Preservation Officer

XC: Ms. Alice Bravo, FDOT District Six, EMO  
Ken Hardin, Janus Research



## **APPENDIX H**

*U.S. Fish and Wildlife Service and  
Florida Fish and Wildlife Conservation Commission  
Advance Notification Responses*

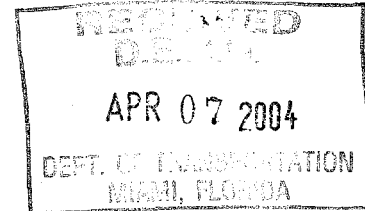


# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
South Florida Ecological Services Office  
1339 20<sup>th</sup> Street  
Vero Beach, Florida 32960



APR 01 2004



Alice N. Bravo  
Florida Department of Transportation  
1000 Northwest 111<sup>th</sup> Avenue, Room 6103  
Miami, Florida 33172-5800

Service Log No.: 4-1-04-TA-6593

Project: Krome Avenue, SW 136<sup>th</sup> Street to SW  
296<sup>th</sup> Street

County: Miami-Dade

Dear Ms. Bravo:

Thank you for your letter dated February 27, 2004, in which you request the Fish and Wildlife Service's (Service) technical assistance on the project referenced above.

## PROJECT DESCRIPTION

The project consists of constructing improvements to Krome Avenue from SW 136<sup>th</sup> Street to SW 296<sup>th</sup> Street. The purpose of the improvements is to address existing deficiencies of the roadway associated with safety, flooding, mobility, and hurricane evacuation. The Florida Department of Transportation (FDOT) proposes to analyze reconstruction and widening alternatives, as well as the "no build" alternative. The project is located in Miami-Dade County, Florida.

## THREATENED AND ENDANGERED SPECIES

The Service has reviewed our Geographic Information Systems (GIS) database for recorded locations of federally listed threatened and endangered species on or adjacent to your property. The GIS database is a compilation of data received from several sources. Two active breeding colonies of the endangered wood stork (*Mycteria americana*) occur approximately 10 miles northwest of the project site. The project is located in the Core Foraging Areas (CFA) (within 18.6 miles) of these nesting colonies. The Service believes that the loss of wetlands within a CFA due to an action could result in the loss of foraging habitat for the wood stork. To minimize adverse effects to the wood stork, we recommend that any lost foraging habitat resulting from the project be replaced within the CFA of the affected nesting colony. Moreover, wetlands provided as mitigation should adequately replace the wetland functions lost as a result of the action.



No other federally listed species were identified on your project site. The Service has not conducted a site inspection to verify species occurrence or validate the GIS results. However, we assume that listed species occur in suitable ecological communities and recommend site surveys to determine the presence or absence of listed species. Ecological communities suitable for listed species can be found in the species accounts in the *South Florida Multi-Species Recovery Plan* (1999). This document is available on the internet at <http://verobeach.fws.gov/Programs/Recovery/esvb-recovery.html>.

We have also provided for your consideration two computer links: (1) <http://verobeach.fws.gov/Programs/Permits/Section7.html> and (2) <http://migratorybirds.fws.gov/>. The first link is a table of species by county that are protected as either threatened or endangered under the Endangered Species Act of 1973, as amended (87 Stat. 884; 16 U.S.C. 1531 *et seq.*) for counties in south Florida. Because this table does not include State-listed species, contact the Florida Fish and Wildlife Conservation Commission at 772-778-5094 to identify those species potentially present in the vicinity. The second link provides species that the Service is required to protect and conserve under other authorities, such as the Fish and Wildlife Coordination Act of 1958, as amended (48 Stat. 401; 16 U.S.C. 661 *et seq.*) and the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 701 *et seq.*). A variety of habitats in south Florida occasionally provide resting, feeding, and nesting sites for a variety of migratory bird species. As a public trust resource, migratory birds must be taken into consideration during project planning and design.

Thank you for the opportunity to comment. If you have any questions, please contact John Wrublik at 772-562-3909, extension 282.

Sincerely yours,



for

James J. Slack  
Field Supervisor  
South Florida Ecological Services Office

cc:

FWC, Vero Beach, Florida  
DEP, West Palm Beach, Florida  
EPA, West Palm Beach, Florida

COUNTY: MIAMI-  
DADE

DATE: 3/5/2004

COMMENTS DUE DATE: 4/4/2004

CLEARANCE DUE DATE: 5/4/2004

SAI#: FL200403085571C

**MESSAGE:**

REFERENCE SAI # FL199908270695C

<b>STATE AGENCIES</b>	<b>WATER MNGMNT. DISTRICTS</b>	<b>OPB POLICY UNIT</b>	<b>RPCS &amp; LOC GOVS</b>
COMMUNITY AFFAIRS			
ENVIRONMENTAL PROTECTION	SOUTH FLORIDA WMD	ENVIRONMENTAL POLICY UNIT	
X FISH and WILDLIFE COMMISSION			
STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

☒ Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.

Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.

Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

**Project Description:**

DEPARTMENT OF TRANSPORTATION -  
ADVANCE NOTIFICATION - SR 977/KROME  
AVENUE/SW 177 AVENUE SOUTH, FROM SW  
296TH STREET/AVOCADO DRIVE TO SW  
136TH STREET - FINANCIAL MANAGEMENT  
NO.: 249614-4-21-01 - MIAMI-DADE COUNTY,  
FLORIDA.

**To: Florida State Clearinghouse**

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

**EO. 12372/NEPA Federal Consistency**

<input checked="" type="checkbox"/> No Comment	<input checked="" type="checkbox"/> No Comment/Consistent
<input type="checkbox"/> Comment Attached	<input type="checkbox"/> Consistent/Comments Attached
<input type="checkbox"/> Not Applicable	<input type="checkbox"/> Inconsistent/Comments Attached
	<input type="checkbox"/> Not Applicable

**From:**

Division/Bureau: FWC - OES

Reviewer: Stephen R. Lay

Date: 3-30-04

**RECEIVED BY FWC**

RECEIVED

MAR 09 2004

APR 01 2004

OIP/OLGA

OFFICE OF  
ENVIRONMENTAL SERVICES

REC'D MAR 22 2004



## **APPENDIX I**

*United States Fish and Wildlife Service and  
Florida Department of Agriculture and Consumer Services  
Coordination Logs*







**June 2006**

**SUBJECT .**

Protection status of State-listed endangered and threatened plants (in regards to State-listed plant species observed at the Owaissa Bauer Addition #1 property located in the southeast quadrant of the intersection of Krome Avenue and SW 264<sup>th</sup> Street

**CONTACT**

Dan Phelps - Florida Department of Agriculture and Consumer Services (FDACS)  
Division of Plant Industry

**SUMMARY**

Mr. Phelps stated that according to Florida Statutes Section 581.185(8), statutory protection of State-listed plants is not applicable if the clearing of land is performed by a public agency when acting in the performance of its obligation to provide service to the public.





**April 2006**

**SUBJECT .**

Protection status of plants species with Federal Candidate status (in reference to *Linum carteri* observed at the Owaissa Bauer Addition #1 property located in the southeast quadrant of the intersection of Krome Avenue and SW 264<sup>th</sup> Street.

**CONTACT**

John Wrublik – United States Fish and Wildlife Service (USFWS) South Florida Ecological Services Office

**SUMMARY**

Mr. Wrublik stated that Federal Candidate plant species do not receive Federal statutory protection. The USFWS requests that candidate species are voluntarily protected as if they were Federally listed.





## **APPENDIX J**

### *Miami-Dade County Schools Correspondence*



# Miami-Dade County Public Schools

*giving our students the world*

**Superintendent of Schools**  
Alberto M. Carvalho

**Miami-Dade County School Board**

Perla Tabares Hantman, Chair  
Dr. Lawrence S. Feldman, Vice Chair  
Dr. Dorothy Bendross-Mindingall  
Carlos L. Curbelo  
Renier Diaz de la Portilla  
Dr. Wilbert "Tee" Holloway  
Dr. Martin Karp  
Dr. Marta Pérez  
Raquel A. Regalado

November 6, 2012

**VIA ELECTRONIC MAIL**

Ms. Teresita Alvarez, P.E.  
District Six Consultant Management Engineer  
Florida Department of Transportation  
1000 N.W. 111 Avenue  
Miami, Florida 33172  
**E-Mail:** [Teresita.alvarez@dot.state.fl.us](mailto:Teresita.alvarez@dot.state.fl.us)

**SUBJECT: Project Development and Environment (PD&E) Study  
State Road 997/Krome Avenue/S.W. 177 Avenue South  
From S.W. 296 Street/Avocado Drive to S.W. 136 Street/Howard  
Drive  
Miami-Dade County  
Financial Project ID Number: 249614-4-22-01  
Federal Aid Project Number: N/A**

Dear Ms. Alvarez:

Your recent letter addressed to Mr. Alberto M. Carvalho, Superintendent of Schools, regarding the above mentioned project was referred to my office. Please note that after review by appropriate District Departments, the following school has been identified as being located in close proximity to the project area:

NAME OF SCHOOL	SCHOOL ADDRESS	PRINCIPAL
Avocado Elementary School	16969 S.W. 294 Street Miami, Fla 33030	Ms. Crystal C. Coffey

Understanding that the Project is currently in its preliminary planning stage, please contact Miami-Dade County Public Schools District staff once the Project reaches Phase 1/Design so that key District and Florida Department of Transportation (FDOT) staff can meet to discuss the maintenance of traffic and other measures to ensure the safety of student pedestrians and to help minimize disruptions to school operations, including bus transportation.

If you have any questions or require additional information please contact Ms. Ana Rijo-Conde, Eco-Sustainability Officer, Planning, Design, and Sustainability, at 305-995-7285.

Sincerely,



Jaime G. Torrens  
Chief Facilities Officer

JGT:dlam  
L060 (R583)

cc: Mr. Alberto M. Carvalho  
Mrs. Valtena Brown  
Dr. Alexis Martinez  
Ms. Ana Rijo-Conde  
Mr. Jerry Klein  
Mr. John Dibenedetto  
Ms. Vivian G. Villaamil  
Ms. Crystal C. Coffey  
Mr. Gus Pego  
Mr. Jorge Gomez



## **APPENDIX K**

### *Section 4(f) Determination of Applicability Agency Correspondence*





## Florida Department of Transportation

JEB BUSH  
GOVERNOR

1000 Northwest 111th Avenue  
Miami, Florida 33172-5800

DENVER J. STUTLER, JR.  
SECRETARY

District Six Planning and Environmental Management Office  
1000 N.W. 111th Avenue, Room 6109  
Miami, FL 33172

June 19, 2006

Mr. David C. Gibbs, Division Administrator  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

Attention: Mr. Greg Williams, District Transportation Engineer

Subject: **Request for Determination of Section 4(f) Applicability**  
SR 997/SW 177<sup>th</sup> Avenue/Krome Avenue 'South'  
From: SW 296<sup>th</sup> Street/Avocado Drive  
To: SW 136<sup>th</sup> Street/Howard Drive  
Financial Management Number: 249614-4-22-01  
Federal Aid Project Number: Not Assigned  
County: Miami-Dade

Dear Mr. Gibbs:

The FDOT is proposing to reconstruct a 10-mile section of SR 997/SW 177<sup>th</sup> Avenue/Krome Avenue 'South'. This letter is to request that the FHWA make a formal Determination of Section 4(f) Applicability (DOA) on a property designated as a preserve adjacent to the above-referenced project limits. Please find the pertinent information enclosed as per the Project Development & Environment (PD&E) Manual, Part 2, Chapter 13-2.2.

Based on the information contained within this DOA, it is our opinion that Section 4(f) does not apply to the above-referenced property. Should you require any further information, please contact me or Susanne Travis at (305) 470-5220.

Sincerely,

Alice N. Bravo, P.E.

District Planning and Environmental Management Engineer

Attachments

cc: Monica Cejas, Marjorie Bixby, Susanne Travis

The FHWA ☒ does / ☐ does not] concur with the above determination.

  
Division Administrator

Federal Highway Administration

6/26/06  
Date





## Florida Department of Transportation

JEB BUSH  
GOVERNOR

1000 Northwest 111th Avenue  
Miami, Florida 33172-5800

DENVER J. STUTLER, JR.  
SECRETARY

District Six Planning and Environmental Management Office  
1000 N.W. 111th Avenue, Room 6109  
Miami, FL 33172

May 24, 2006

Mr. David C. Gibbs, Division Administrator  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

Attention: Mr. Greg Williams, District Transportation Engineer

Subject: Request for Determination of Section 4(f) Applicability  
SR 997/SW 177<sup>th</sup> Avenue/Krome Avenue 'South'  
From: SW 296<sup>th</sup> Street/Avocado Drive  
To: SW 136<sup>th</sup> Street/Howard Drive  
Financial Management Number: 249614-4-22-01  
Federal Aid Project Number: Not Assigned  
Miami-Dade County, Florida

Dear Mr. Gibbs:

The FDOT is proposing to reconstruct a 10-mile section of SR 997/SW 177<sup>th</sup> Avenue/Krome Avenue 'South'. This letter is to request that the FHWA make a formal Determination of Section 4(f) Applicability (DOA) on a property designated as a preserve adjacent to the above-referenced project limits. Please find the pertinent information enclosed as per the Project Development & Environment (PD&E) Manual, Part 2, Chapter 13-2.2.

Based on the information contained within this DOA, it is our opinion that Section 4(f) does not apply to the above-referenced property. Should you require any further information, please contact me or Susanne Travis at (305) 470-5220.

Sincerely,

Alice N. Bravo, P.E.  
District Planning and Environmental Management Engineer

ANB/cfp  
Attachments

cc: Monica Cejas, Marjorie Bixby, Susanne Travis





**SECTION 4(F) DETERMINATION OF  
APPLICABILITY (DOA)**

**SR 997/KROME AVENUE PROJECT  
DEVELOPMENT & ENVIRONMENT STUDY  
FROM SW 296<sup>th</sup> STREET/AVOCADO DRIVE  
TO SW 136<sup>th</sup> STREET/HOWARD DRIVE**

**Prepared By  
Florida Department of Transportation**

**MAY 2006**

## SECTION 4(F) DETERMINATION OF APPLICABILITY (DOA)

### INTRODUCTION

The Florida Department of Transportation (FDOT) is currently conducting a Project Development and Environment (PD&E) Study to widen and reconstruct the existing SR 997/Krome Avenue/SW 177<sup>th</sup> Avenue corridor. As part of this study, the FDOT has conducted a Section 4(f) Determination of Applicability for a potential Section 4(f) Property, named Owaissa Bauer Addition No. 1. This property is located within the project corridor and will be discussed in more detail within this report. The limits of the project include from Avocado Drive/SW 296<sup>th</sup> Street to Howard Drive/SW 136<sup>th</sup> Street, a distance of approximately ten (10) miles. The project is located in Sections 12, 7, 1 and 6; Township 57S; Sections 36, 31, 25, 30, 24, 19, 13, 18, 12, 7, 1 and 6; Township 56S; Sections 36, 31, 25, 30, 24, 19, 13 and 18; Township 55S; Ranges 38E and 39E (*See Figure No. 1, Project Location Map*). The section of Krome Avenue from the intersection of SW 136<sup>th</sup> Street northward to the intersection of SR-25/US 27/Okeechobee Road in Miami-Dade County is the subject of another PD&E Study that extends approximately twenty-three (23) miles.

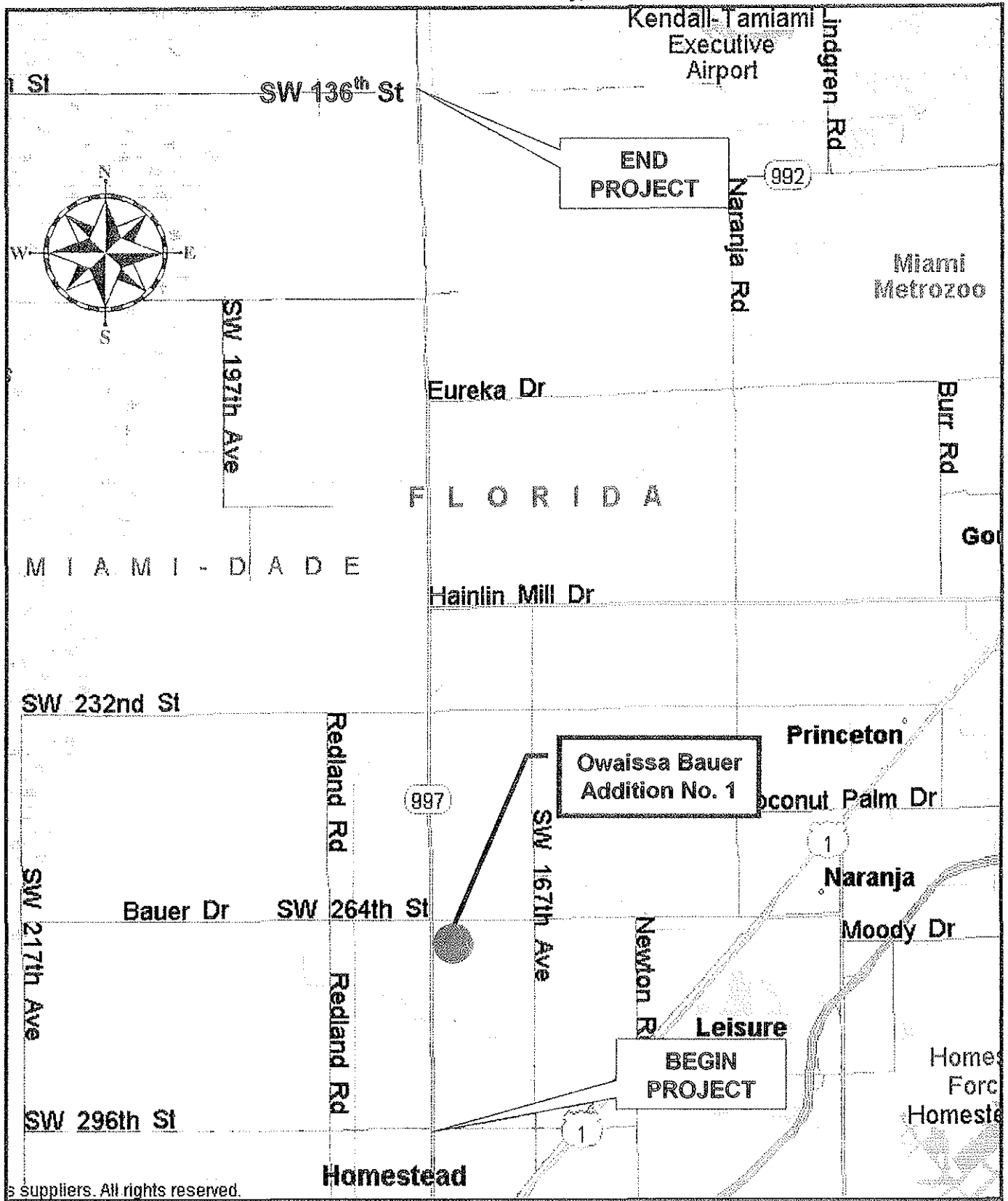
Krome Avenue is a major north-south rural/urban principal arterial that extends from SR-5/US 1 to SR-25/US 27/Okeechobee Road in Miami-Dade County. The project proposes to develop and analyze alternatives including a no build alternative, a Transportation System Management (TSM) alternative, and several build alternatives consisting of two, three, and four-lane typical sections. All alternatives will look at preserving the rural character of the corridor while providing safety and operational enhancements.

The Krome Avenue corridor has been the subject of extensive study and discussion for the past two decades. It provides regional connectivity from as far south as the Florida Keys to Broward County and points north. Further, it is one of only three evacuation routes serving the Florida Keys and southern Miami-Dade County. Other concerns include safety issues, roadway crashes, sight distance problems at intersections, inconsistent roadway shoulders, and inadequate signage.

Project objectives include the following: Improve roadway conditions; increase capacity to mitigate existing traffic congestion and to accommodate future traffic demand; improve drainage by providing the necessary stormwater treatment; improve access management; provide bicycle/pedestrian access and continuity; incorporate landscaping and aesthetic treatments, and maintain an adequate level of service for traffic during construction.

Project alternatives consider corridor options, typical section concepts, horizontal alignment concepts, intersection options, shared use path options, drainage treatment options, etc. Alternatives emphasize engineering, environmental, and socio-economic aspects. Other issues include a preliminary design analysis of bridge widening alternatives, maintenance of traffic, constructability issues, drainage, utilities, soils and geotechnical issues, socio-economic and environmental impacts, construction, and right-of-way costs.

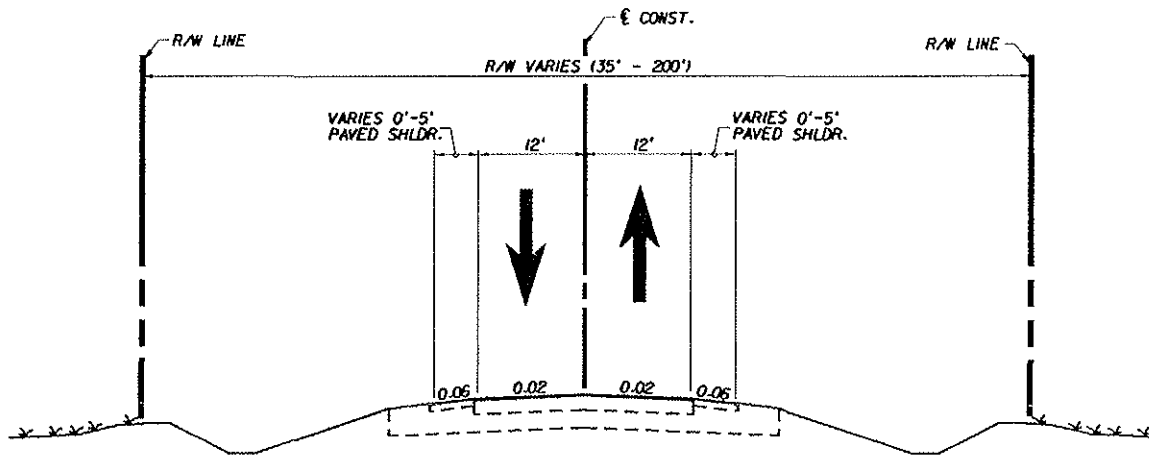
Figure No. 1 – PROJECT LOCATION MAP  
 SR 997 / Krome Avenue  
 From SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street  
 Miami-Dade County, Florida



Suppliers. All rights reserved.

136th Street/Howard Drive varies slightly, consisting primarily of two twelve-foot (12') travel lanes (less than 12' at some locations), with variable paved shoulders (0-5') and soil/grass swales. The existing right of way varies from 35 feet to 200 feet (*See Figure No. 2 - Existing Typical Section*). There are no existing pedestrian or bicycle facilities along Krome Avenue or any of the adjacent side streets. There are no crosswalks and/or pedestrian pushbuttons provided at the signalized intersections.

*Figure No. 2 - Existing Typical Section*



## SUPPORTING INFORMATION

- 1) *A detailed map identifying the relationship of the proposed project alternatives to the Section 4(f) properties:*

*See Appendix, Figure Nos. 3, 4, and 5, Aerials* showing the proposed project alternatives adjacent to the potential Section 4(f) property, Owaissa Bauer Addition No. 1.

Based on the four different alternatives considered, direct impacts to this property include the following: 0.82 acres of impact for Alternatives 1 & 2, 1.25 acres of impact for Alternative 3, and 1.0 acres of impact for Alternative 4.

- 2) *Size and location of the affected Section 4(f) properties:*

Section 4(f) properties can be divided into three categories: (A) publicly owned parks, recreation areas, and wildlife and waterfowl refuges, (B) historic and archaeological sites, and (C) properties which represent public multiple-use land holdings. They must also qualify as significant.

The potential Section 4(f) property, Owaissa Bauer Addition No. 1, is located on the southeast corner of Krome Avenue and SW 264<sup>th</sup> Street, including Section 13, Township 56 S, and Range 39 E. The entire property encompasses 9.35 acres (*See Appendix, Figure No. 6 – Existing Conditions Aerial*).

3) *Ownership and type of Section 4(f) property (park, recreation, historic etc.):*

In January of 1996, the Miami-Dade County Department of Environmental Resources Management (DERM) - Office of Environmentally Endangered Lands (EEL) purchased the property, and the title was transferred to the State of Florida Trustees of the Internal Improvement Trust Fund (TIITF) on August 27, 2002. Both State Conservation and Recreation Lands (CARL) and DERM - EEL Program funds were utilized to purchase the property. The DERM - EEL Office currently manages the property. The Statement of Significance from the DERM - EEL Office (*See Appendix, Figure No. 7 - Statement of Significance Letter dated April 11, 2006*) indicates that the property is described as a critically imperiled pine rockland preserve that was originally purchased for the purpose of conservation in perpetuity, and is designated as a significant preserve that provides a significant habitat for plants and animals. However, based on coordination between the FDOT consultants and DERM - EEL staff in March 2006, the EEL staff has stated that this site is not designated as a park, recreation, or wildlife refuge. Therefore, under the definition of Section 4(f) properties, this site does not fall under any of the three subject categories.

4) *Function or available activities on the properties:*

Based on a review of a DERM – EEL Office draft Biological Evaluation Report (BER) prepared for Owaissa Bauer Addition No. 1 (undated) and a field review conducted in March 2006 by FDOT Consultants, this site appears to function primarily as a natural pine preserve and also serves as a significant habitat for plants. From additional information contained in the BER and the Statement of Significance Letter, the DERM - EEL Office indicates that several migratory bird species and raptors have been observed on site. The site also contains one Federally-listed Candidate Plant, *Linum carteri* var *carteri*, which is found in clusters within the proposed right-of-way footprint for all alternatives on the east side of Krome Avenue. One Federally-listed Plant, the endangered *chamaesyce deltoidea* ssp. *adhaerens*, has also been identified within the preserve. However, this plant will not be impacted by any proposed alternatives. *See Appendix, Figure No. 8 - Locations of State & Federally Listed Plants at Owaissa Bauer Addition No. 1 (includes listing of plants observed)*, and *Appendix, Figure No. 9 - Listed Animal Species Observed at Owaissa Bauer Addition No. 1*.

Even though several migratory bird species and raptors have been observed at Owaissa Bauer Addition No. 1, this kind of usage appears to be incidental or secondary to the primary function of the site, which is to provide a habitat for rare plant species.

5) *Description/location of all existing and planned facilities:*

Currently there are no existing or planned facilities on this site. Access control, interpretive

signs, and walking paths may be installed in the future. However, based on coordination with Emilie Young, Director of the DERM EEL Office, this site will continue to function as a preserve in the future. As a requirement of this site under the EEL Program, a management plan for the property will be developed within the next year.

**6) *Access (pedestrian, vehicular) and usage (approximate number of users/visitors):***

Access to the property is provided to pedestrians. Two asphalt roads enter into Owaissa Bauer Addition No. 1 from SW 264th Street, but both roads are closed off with metal locking gates.

Therefore, the site is closed to vehicular traffic. One of the roads extends south (approximately 300 feet) and ends near the center of the property. The second road extends south (approximately 550 feet) along the entire length of the western property boundary. A chain link fence extends along the eastern property boundary. Thick vegetation surrounds most edges of the site making access from pedestrians difficult. Legal access by pedestrians is currently available from Krome Avenue and SW 264th Street.

Because the preserve is an undeveloped, naturally vegetated site and does not have any existing facilities, usage from the general public appears to be low especially since the site is open by appointment only, according to additional information provided in the Statement of Significance letter package from the DERM – EEL Office to the FDOT.

**7) *Relationship to other similarly used lands in the vicinity:***

Immediately adjacent to the Owaissa Bauer Addition No. 1 site is another pineland property, named Owaissa Bauer Addition No. 2, which comprises a total of 20 acres. This site is located further east along SW 264<sup>th</sup> Street, and is designated as a Natural Forest Community by Miami-Dade County, and on the acquisition list for the EEL Program. In addition, Camp Owaissa Bauer is a 79-acre Miami-Dade County Park, which is located on the north side of SW 264 Street, further north and east of Krome Avenue. Owaissa Bauer Addition No. 1 site is also a pine rockland forest fragment which was historically connected to a larger natural area, part of which remains in Camp Owaissa Bauer Park, another pineland property that is under Miami-Dade County Parks and Recreation jurisdiction. However, both sites serve different purposes. The Owaissa Bauer Park is primarily a recreational park facility, and Owaissa Bauer Addition No. 1 is primarily a plant preserve.

**8) *Applicable clause affecting ownership, such as lease, easement, covenants, restrictions, or conditions, including forfeiture:***

Within the Owaissa Bauer Addition No. 1 site, 7.42 acres are subject to Natural Forest Community restrictions as designated within Chapter 24 - Section 49 (Tree Preservation and Protection) and Section 50 (Environmentally Endangered Lands Program) of the Miami-Dade County Code (*See Appendix, Figure No. 10 - Code of Miami-Dade County, Chapter 24, Sections 49 & 50*). The northern 55 feet and western 35 feet of the property are dedicated rights-of-way of Miami-Dade County. The property also is subject to terms of the Board of

Trustees of the Internal Improvement Trust Fund of the State of Florida - Lease Agreement No. 3941 (*See Appendix, Figure No. 11 – Multiple Agency Lease Agreement*), which leases the property to Miami-Dade County for the purpose of conservation and protection of public lands.

**9) *Unusual characteristics of the Section 4(f) properties (flooding, terrain, other features) that either reduce or enhance the value of all or part of the property:***

As discussed previously, a number of rare State and Federal (Candidate and Listed) protected plant species enhance the value of this property. As noted in the Statement of Significance letter (*See Appendix, Figure No. 7 – Statement of Significance Letter*), the Florida Natural Areas Inventory designates pine rockland habitat as “G1 which means Critically imperiled globally.” This is a designation which indicates extreme rarity (5 or fewer occurrences or less than 1000 individual plants) or because of extreme vulnerability to extinction due to some natural or man-made factor. Pine rockland habitat is extremely rare and exists in limited areas of the Florida Keys and the Bahamas.

**10) *Statement on significance from the official who has jurisdiction over the Section 4(f) property (regarding the entire property, not of the proposed use):***

The FDOT solicited Statements of Significance from the corresponding officials regarding the potential Section 4(f) properties described in this DOA (*Appendix, See Figure No. 11 - FDOT Request for Statement of Significance Letter*). As discussed before, the DERM - EEL Office responded by providing a Statement of Significance letter (*See Appendix, Figure No. 7 - Statement of Significance Letter*) which states “the subject property, Owaissa Bauer Addition No. 1, is a critically imperiled pine rockland, acquired for the purpose of conservation, that will function as a natural pine rockland preserve in perpetuity.” Also within the letter, the following statement is made, “the Owaissa Bauer Addition #1 is a natural preserve of statewide Significance.”

**11) *Project activities which may result in proximity impacts to the resources, and attributes or features of the Section 4(f) properties which may be sensitive to proximity impacts from potential constructive use:***

There will be no proximity impacts from the proposed project because the site will not be substantially impaired from functioning as a preserve. In addition, the proposed project will not substantially impair the activities, features, or attributes that qualify these resources as a preserve. Before construction of this project, the DERM – EEL Office indicated that they would be erecting a fence around the entire site so that no construction staging of equipment or other construction activities will take place within the site.

**12) *Grants Applicable to Section 4(f) Properties:***

This site has been designated by the Board of County Commissioners as an Environmentally Endangered Lands (EEL) site and has been ranked No. 1 on the State CARL Bargain Share List as part of the “Dade Archipelago” project. The Dade Archipelago project was an

acquisition program started in the 1990's to purchase natural pine rockland sites within the Miami-Dade County area. Through this program, Miami-Dade County and the State acquired the site with 50-50 matching funds in order to protect its natural resources.

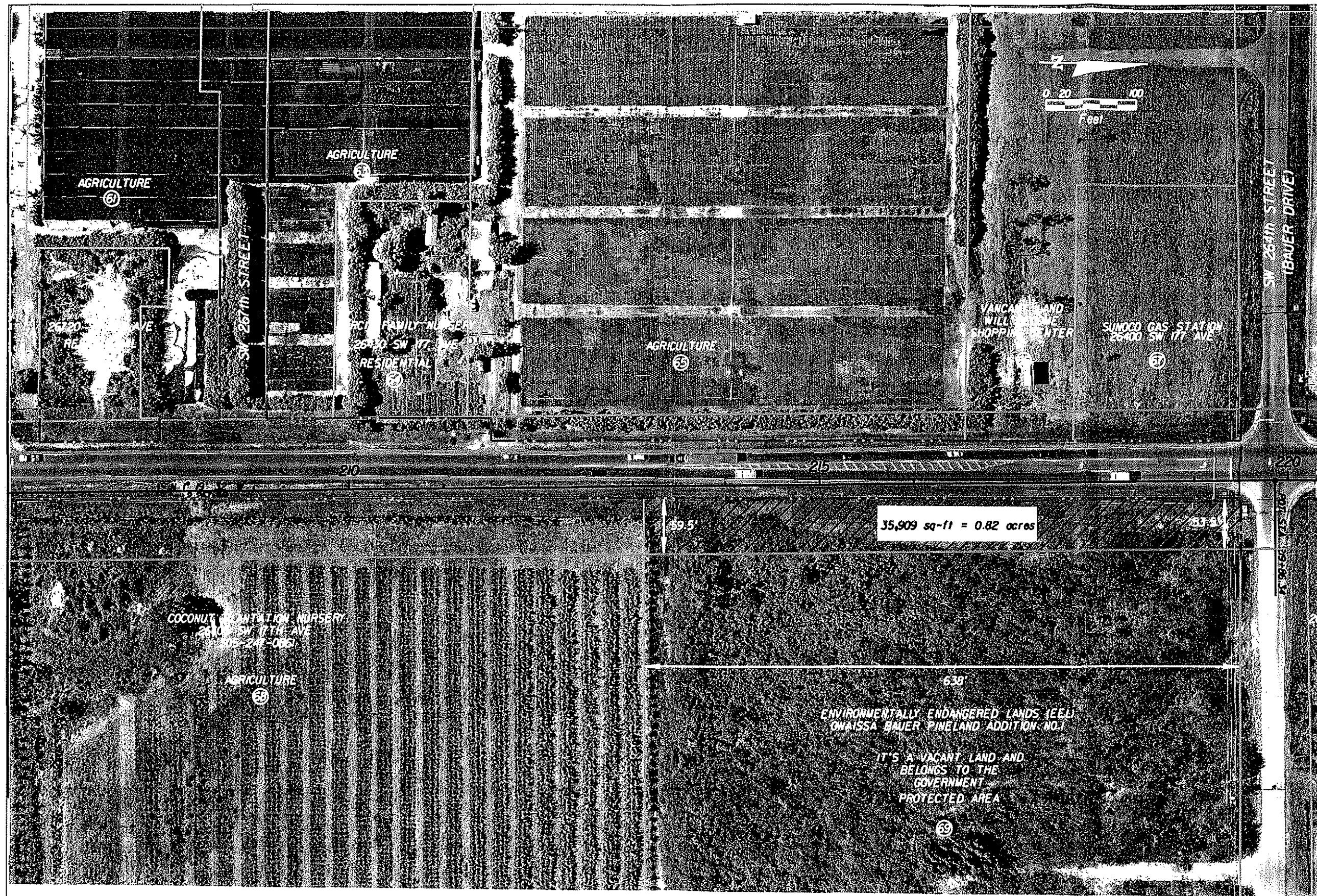


**KROME AVENUE SOUTH  
DETERMINATION OF APPLICABILITY  
APPENDIX**

## **FIGURE NO. 3**

**Krome Avenue PD&E Study  
Illustrating Proposed Footprints of Alternatives 1 & 2  
And EEL Right of Way Impacts  
(From Approximate Station 213 + 20 to Approximate Station 219 + 50)**

MATCH LINE STA. 206+43



MATCH LINE STA. 220+45

REVISIONS						URS	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			KROME AVENUE ALTERNATIVES 1 & 2 EEL RIGHT OF WAY IMPACTS	FIGURE NO.  3
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
		PD&E STUDY DRAFT SUBJECT TO CHANGE	4-12-06		LEGEND: EXISTING R/W ALTERNATIVE 1 PARCEL LINES CENTER LINE OF CONSTRUCTION		SR-997	MIAMI-DADE	249614-4-22-01		

## **FIGURE NO. 4**

**Krome Avenue PD&E Study  
Illustrating Proposed Footprints of Alternative 3  
And EEL Right of Way Impacts  
(From Approximate Station 213 + 20 to Approximate Station 219 + 50)**



MATCH LINE STA. 206+43



MATCH LINE STA. 220+45

REVISIONS						URS	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			KROME AVENUE ALTERNATIVE 3 EEL RIGHT OF WAY IMPACTS	FIGURE NO.  4
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
		PD&E STUDY DRAFT SUBJECT TO CHANGE	4-12-06		LEGEND: ——— EXISTING R/W ——— ALTERNATIVE 3 ——— PARCEL LINES ——— CENTER LINE OF CONSTRUCTION	7650 Corporate Center Drive, Suite 400 Miami, Florida, 26331-1220 Ph : (305) 262-7466 - Fax : (305) 261-4017	SR-997	MIAMI-DADE	249614-4-22-01		

## **FIGURE NO. 5**

**Krome Avenue PD&E Study**

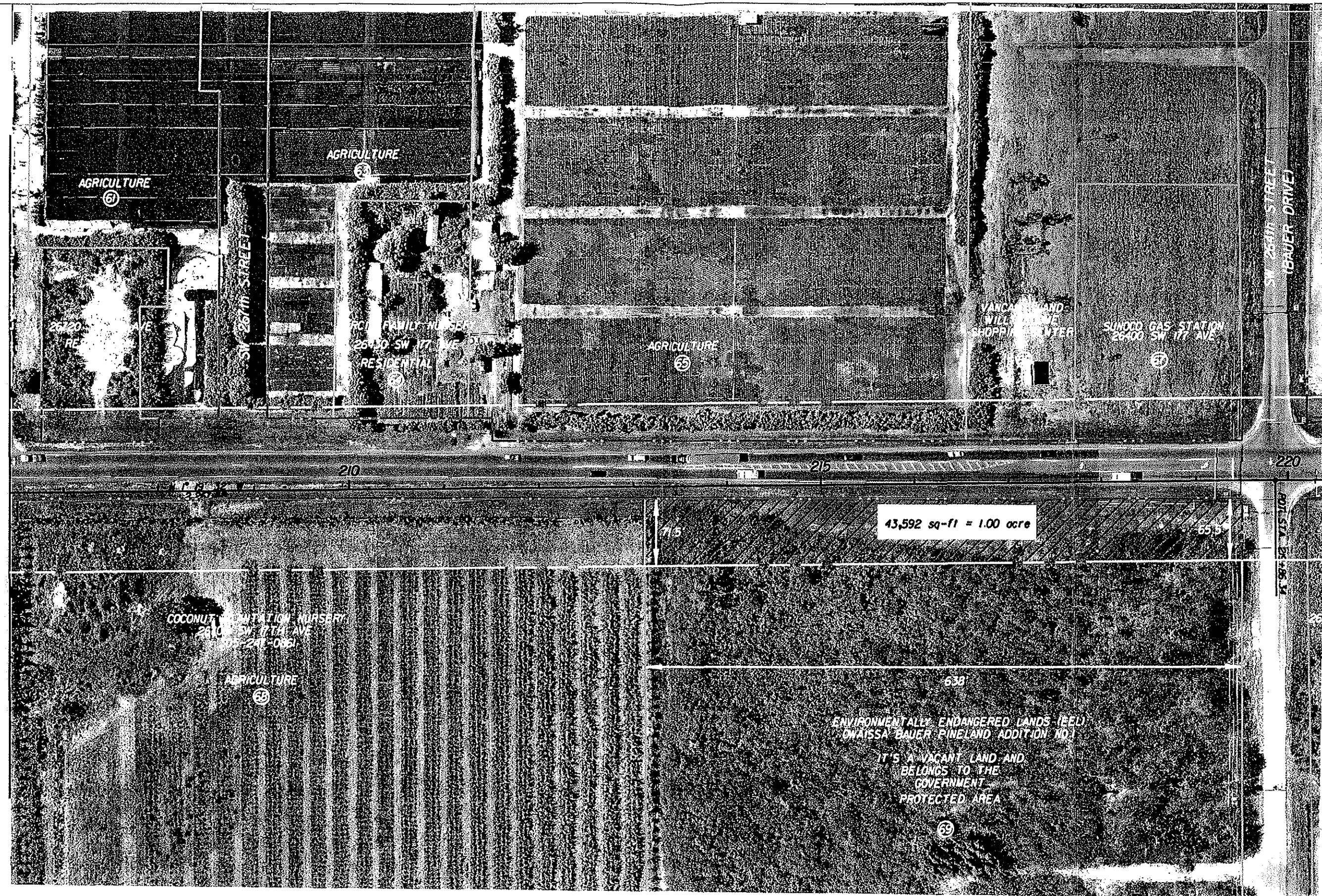
**Illustrating Proposed Footprints of Alternative 4**

**And EEL Right of Way Impacts**

**(From Approximate Station 213 + 20 to Approximate Station 219 + 50)**



MATCH LINE STA. 206+43



MATCH LINE STA. 220+45

REVISIONS						URS	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			KROME AVENUE ALTERNATIVE 4 EEL RIGHT OF WAY IMPACTS	FIGURE NO.  5
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
		PD&E STUDY DRAFT SUBJECT TO CHANGE	4-12-06		LEGEND: EXISTING R/W ALTERNATIVE 4 PARCEL LINES CENTER LINE OF CONSTRUCTION		SR-997	MIAMI-DADE	249614-4-22-01		

## **FIGURE NO. 6**

**Krome Avenue PD&E Study**

**Illustrating Krome Avenue Project Corridor**

**Existing Conditions and the EEL Property**

**(From Approximate Station 213 + 20 to Approximate Station 219 + 50)**



MATCH LINE STA. 206+43



MATCH LINE STA. 220+45

REVISIONS						URS	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			KROME AVENUE EXISTING CONDITIONS EEL PROPERTY	FIGURE NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
		PD&E STUDY DRAFT SUBJECT TO CHANGE	4-12-06		LEGEND: EXISTING R/W PARCEL LINES CENTER LINE OF CONSTRUCTION		SR-997	MIAMI-DADE	249614-4-22-01		6
						7650 Corporate Center Drive, Suite 400 Miami, Florida, 26331-1220 Ph : (305) 262-7466 - Fax : (305) 261-4017					

## **FIGURE NO. 7**

### **RESPONSE LETTER FROM OFFICIALS HAVING JURISDICTION OVER POTENTIAL SECTION 4(f) PROPERTY**

#### **For Owaissa Bauer Addition No. 1 Property**

**April 11, 2006**

**Ms. Emilie M. Young, Program Director**

**Environmentally Endangered Lands Program**

**Miami-Dade County Department of Environmental Resources Management**



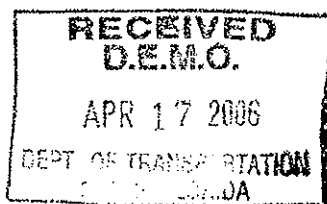
Department of Environmental Resources Management

Environmentally Endangered Lands Program

33 SW 2nd Avenue, PH 2

Miami, Florida 33130-1540

T 305-372-6687 F 305-372-6759



miamidade.gov

April 11, 2006

Ms. Alice N. Bravo, P.E.  
Florida Department of Transportation  
District Planning and Environmental Management Office  
1000 NW 111<sup>th</sup> Avenue, Rm. 6109  
Miami, FL 33172

Re: Statement of Significance—Owaissa Bauer Addition No. 1, Krome Avenue South Project Development & Environmental Study, FDOT Financial Mgmt No: 249614-4-21-1, Miami-Dade.

Dear Ms. Bravo:

We have reviewed your information request for the Krome Avenue South Project that is proposed to occur adjacent to EEL property, Owaissa Bauer Addition #1.

Our Statement of Significance is as follows:

The subject property, Owaissa Bauer Addition #1, is critically imperiled pine rockland, acquired for the purpose of conservation, that will function as a natural pine rockland preserve in perpetuity. This remnant pine rockland forest fragment was historically connected to a larger natural area, part of which remains in Camp Owaissa Bauer Park. The property is designated by the Board of County Commissioners as an Environmentally Endangered Lands (EEL) site and has been ranked #1 on the States Conservation and Recreation Lands (CARL) Bargain Share List as part of the "Dade Archipelago" project. The site was acquired with 50-50 matching funds by the County and the State in order to protect its natural resources.

The Florida Natural Areas Inventory designates pine rockland habitat as "G1 = Critically imperiled globally" a designation which indicates extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor. Pine rockland habitat is extremely rare and exists in limited areas of the Florida Keys and the Bahamas. The Owaissa Bauer preserve area serves as significant habitat for plants and animals. Several migratory bird species and raptors have been observed on site. The Owaissa Bauer Addition #1 is a natural preserve of Statewide significance.

This Department has the responsibility to protect and manage the subject property in accordance with Ch. 24-50 of the Miami-Dade County Code and

*Delivering Excellence Every Day*

**Figure No. 7 - Statement of Significance Letter**

AIDA Coordination  
Agenda Coordination  
Art in Public Places  
Audit and Management Services  
Aviation  
Building Code Compliance  
Building  
Business Development  
Capital Improvements  
Citizen's Independent Transportation Trust  
Communications  
Community Action Agency  
Community & Economic Development  
Community Relations  
Consumer Services  
Corrections & Rehabilitation  
Countywide Healthcare Planning  
Cultural Affairs  
Elections  
Emergency Management  
Employee Relations  
Enterprise Technology Services  
Environmental Resources Management  
Fair Employment Practices  
Finance  
Fire Rescue  
General Services Administration  
Historic Preservation  
Homeless Trust  
Housing Agency  
Housing Finance Authority  
Human Services  
Independent Review Panel  
International Trade Consortium  
Juvenile Assessment Center  
Medical Examiner  
Metropolitan Planning Organization  
Park and Recreation  
Planning and Zoning  
Police  
Procurement Management  
Property Appraiser  
Public Library System  
Public Works  
Safe Neighborhood Parks  
Seaport  
Solid Waste Management  
Strategic Business Management  
Team Metro  
Transit  
Urban Revitalization Task Force  
Vizcaya Museum and Gardens  
Water and Sewer

Alice N. Bravo  
Florida Department of Transportation  
District Planning and Environmental Management Office  
Page 2


to regulate impacts to this natural forest community in accordance with Ch. 24-49 of the County Code.

Our response to your request for information regarding this site is attached, along with the following documents:

1. EEL Ordinance (Ch. 24-50)
2. Natural Forest Community regulations (Ch24-49)
3. Owaissa Bauer Addition #1 Biological Evaluation
4. Owaissa Bauer Addition #1 FY 2004-2005 Workplan & Budget
5. Owaissa Bauer Addition #1 Plant List compiled by Institute for Regional Conservation

Please contact me at (305) 372-6687 should you have any further questions or concerns.

Sincerely,

A handwritten signature in cursive script that reads "Emilie M. Young".

Emilie M. Young, Program Director  
Environmentally Endangered Lands Program

## **FIGURE NO. 8**

**Locations of State Listed Plants at Owaissa Bauer Addition No. 1 (includes listing of plants observed - March 14, 2006 and May 2006)**

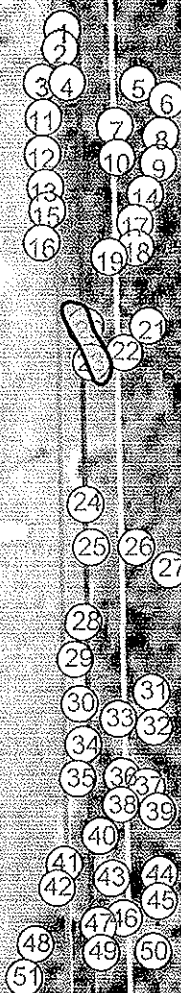


SW 264th Street (Bauer Drive)

SW 177th Avenue (SR 997 Krome Avenue)

Owaissa Bauer Addition

0 25 50 100 Feet



**Legend**

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4

- Location of *Linum carteri* var. *carteri*
- Locations Of State Listed Plants (observed March 14, 2006)
- Location of *Chamaesyce deltoidea* subsp. *adhaerens* (observed May 2006)

Source: Miami-Dade County IT Dept.  
 Project: Krome Ave South PD&E Study  
 Location: Miami-Dade County, Florida  
 Proj. No.: 249614-4-22-01  
 Scale: 1 inch = 100 feet

Locations Of State & Federally Listed Plants At Owaissa Bauer



FLORIDA DEPARTMENT OF TRANSPORTATION  
 ENVIRONMENTAL MGMT. OFFICE

Exhibit No. 8

# Key to State Listed Plants Observed At Owaissa Bauer Addition

Location #	Listed Species Observed
1	<i>Senna mexicana</i> var. <i>chapmanii</i> (Chapman's wild sensitive plant, FL-T), <i>Argythamnia blodgettii</i> (Blodgett's wild mercury, FL-E), <i>Smilax havanensis</i> (Everglades greenbrier, FL-T)
2	<i>Smilax havanensis</i> , <i>Argythamnia blodgettii</i> , <i>Koanophyllon villosum</i> (Florida shrub thoroughwort, FL-E)
3	<i>Coccothrinax argentata</i> (Florida silver palm, FL-T), <i>Smilax havanensis</i> , <i>Senna mexicana</i> var. <i>chapmanii</i>
4	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Tetrazygia bicolor</i> (tetrazygia, FL-T), <i>Smilax havanensis</i> , <i>Byrsonima lucida</i> (locustberry, FL-T), <i>Coccothrinax argentata</i>
5	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Smilax havanensis</i> , <i>Coccothrinax argentata</i> , <i>Crossopetalum ilicifolium</i> (Christmasberry, FL-T), <i>Zamia pumila</i> (coontie, FL-C), <i>Pteris bahamensis</i> (Bahama ladder brake, FL-T)
6	<i>Tetrazygia bicolor</i> , <i>Smilax havanensis</i> , <i>Argythamnia blodgettii</i>
7	<i>Crossopetalum ilicifolium</i> , <i>Koanophyllon villosum</i> , <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Coccothrinax argentata</i>
8	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Zamia pumila</i> , <i>Smilax havanensis</i> , <i>Crossopetalum ilicifolium</i>
9	<i>Zamia pumila</i> , <i>tetrazygia bicolor</i> , <i>Crossopetalum ilicifolium</i> , <i>Tragia saxicola</i> (Florida Keys noseburn, FL-T), <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Coccothrinax argentata</i>
10	<i>Coccothrinax argentata</i> , <i>Zamia pumila</i> , <i>Smilax havanensis</i> , <i>Argythamnia blodgettii</i> , <i>Koanophyllon villosum</i>
11	<i>Koanophyllon villosum</i> , <i>Coccothrinax argentata</i>
12	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Smilax havanensis</i>
13	<i>Smilax havanensis</i> , <i>Coccothrinax argentata</i> , <i>Tetrazygia bicolor</i> , <i>Koanophyllon villosum</i>
14	<i>Smilax havanensis</i> , <i>Coccothrinax argentata</i> , <i>Tetrazygia bicolor</i> , <i>Senna mexicana</i> var. <i>chapmanii</i>
15	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Smilax havanensis</i> , <i>Zamia pumila</i>
16	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Koanophyllon villosum</i> , <i>Zamia pumila</i> , <i>Pteris bahamensis</i> , <i>Smilax havanensis</i>
17	<i>Zamia pumila</i> , <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Smilax havanensis</i>
18	<i>Koanophyllon villosum</i> , <i>Smilax havanensis</i> , <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Zamia pumila</i> , <i>Coccothrinax argentata</i>
19	<i>Tetrazygia bicolor</i> , <i>Coccothrinax argentata</i> , <i>Smilax havanensis</i>
20	<i>Zamia pumila</i> , <i>Coccothrinax argentata</i> , <i>Tetrazygia bicolor</i> , <i>Myrcianthes fragrans</i> (Simpson's stopper, FL-T)
21	<i>Tetrazygia bicolor</i> , <i>Smilax havanensis</i>
22	<i>Tetrazygia bicolor</i> , <i>Byrsonima lucida</i> , <i>Koanophyllon villosum</i>
23	<i>Koanophyllon villosum</i> , <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Argythamnia blodgettii</i> , <i>Crossopetalum ilicifolium</i>
24	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Argythamnia blodgettii</i> , <i>Koanophyllon villosum</i> , <i>Zamia pumila</i> , <i>Coccothrinax argentata</i>
25	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Tetrazygia bicolor</i>
26	<i>Coccothrinax argentata</i> , <i>Smilax havanensis</i> , <i>Tetrazygia bicolor</i>
27	<i>Tetrazygia bicolor</i> , <i>Pteris bahamensis</i> , <i>Coccothrinax argentata</i>

Location #	Listed Species Observed
28	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Argythamnia blodgettii</i>
29	<i>Argythamnia blodgettii</i>
30	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Koanophyllon villosum</i> , <i>Coccothrinax argentata</i> , <i>Zamia pumila</i> , <i>Lantana depressa</i> (pineland lantana)
31	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Tetrazygia bicolor</i>
32	<i>Tetrazygia bicolor</i>
33	<i>Tetrazygia bicolor</i> , <i>Byrsonima lucida</i>
34	<i>Byrsonima lucida</i> , <i>Coccothrinax argentata</i> , <i>Senna mexicana</i> var. <i>chapmanii</i>
35	<i>Byrsonima lucida</i> , <i>Coccothrinax argentata</i> , <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Tetrazygia bicolor</i>
36	<i>Coccothrinax argentata</i> , <i>Tillandsia fasciculata</i> var. <i>densispica</i> (cardinal airplant. FL-E)
37	<i>Coccothrinax argentata</i>
38	<i>Tetrazygia bicolor</i>
39	<i>Coccothrinax argentata</i>
40	<i>Coccothrinax argentata</i> , <i>Byrsonima lucida</i> , <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Tetrazygia bicolor</i> , <i>Angadenia berteroi</i> (pineland golden trumpet, FL-T)
41	<i>Zamia pumila</i> , <i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Argythamnia blodgettii</i>
42	<i>Koanophyllon villosum</i> , <i>Tetrazygia bicolor</i> , <i>Zamia pumila</i> , <i>Senna mexicana</i> var. <i>chapmanii</i>
43	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Angadenia berteroi</i> , <i>Zamia pumila</i> , <i>Koanophyllon villosum</i>
44	<i>Koanophyllon villosum</i> , <i>Coccothrinax argentata</i> , <i>Senna mexicana</i> var. <i>chapmanii</i>
45	<i>Koanophyllon villosum</i> , <i>Tetrazygia bicolor</i> , <i>Zamia pumila</i>
46	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Koanophyllon villosum</i>
47	<i>Zamia pumila</i> , <i>Senna mexicana</i> var. <i>chapmanii</i>
48	<i>Argythamnia blodgettii</i> , <i>Rhynchosia parvifolia</i> (small-leaf snoutbean, FL-T), <i>Koanophyllon villosum</i>
49	<i>Senna mexicana</i> var. <i>chapmanii</i> , <i>Koanophyllon villosum</i>
50	<i>Zamia pumila</i> , <i>Tetrazygia bicolor</i> , <i>Coccothrinax argentata</i> , <i>Senna mexicana</i> var. <i>chapmanii</i>
51	<i>Lantana depressa</i>

FL= Florida Department of Agriculture and Consumer Affairs - The state lists of plants are categorized into endangered, threatened and commercially exploited, and are administered and maintained by the Florida Department of Agriculture and Consumer Services via Chapter 5B-40, F.A.C.

E = Endangered

T = Threatened

C = Commercially Exploited



## **FIGURE NO. 9**

**Listed Animal Species Observed at Owaissa Bauer Addition No. 1**

Figure No. 9 – List of Animals Species Observed - Owaissa Bauer  
Addition No. 1

<u>Common Name</u>	<u>Scientific Name</u>
Downy woodpecker	* <i>Picoides pubescens</i>
Common yellowthroat	* <i>Geothlypis trichas</i>
Blue-Gray gnatcatcher	* <i>Poliophtila caerulea</i>
Cardinal	* <i>Cardinalis sp.</i>
Rufous-sided towhee	* <i>Pipilo erythrophthalmus</i>
Red-bellied woodpecker	* <i>Melanerpes carolinus</i>
Blue Jay	* <i>Cyanocitta cristata</i>
Mockingbird	* <i>Mimus polyglottos</i>
Young marsh hawk	* <i>Circus cyaneus</i>

\* Not on State of Florida Fish & Wildlife Conservation Commission Threatened or Endangered Species Listing, but protected under the US Migratory Bird Treaty Act.

**FIGURE NO. 10**

**CODE OF MIAMI-DADE COUNTY, CHAPTER 24, SECTION 49 – TREE  
PRESERVATION & PROTECTION, AND SECTION 50 -  
ENVIRONMENTALLY ENDANGERED LANDS PROGRAM**

# **Code of Miami-Dade County**

## **Chapter 24**

### **Section 49 – Tree Preservation & Protection**

### **Section 50 – Environmentally Endangered Lands Program**

**DIVISION 2. TREE PRESERVATION AND PROTECTION****Sec. 24-49. Permits for tree removal and relocation, improperly issued permits, violation of permit conditions, exemptions from tree removal permits; mortgagee exemption from liability.**

- (1) It shall be unlawful for any person, unless otherwise permitted by the terms of this article, to do tree removal work or to effectively destroy any tree, or to effectively destroy any understory in a natural forest community, without first obtaining a permit from the Department.
- (2) No municipal or County official shall issue a tree removal permit that does not comply with the provisions of this article. Any such permit shall be void.
- (3) It shall be unlawful for any person to violate or not comply with any of the conditions of a Miami-Dade County tree removal permit.
- (4) The following activities are exempt from tree removal permits:
  - (a) Removal of trees within the yard area of an existing single-family residence, provided the trees are not within a natural forest community, and are not specimen trees. This exemption does not apply to trees which are growing on County rights-of-way adjoining existing single-family residences;
  - (b) Removal of trees for the construction of a new single-family residence, provided that:
    - (i) The lot is one (1) acre or less in size (43,560 square feet), if an AU zoned lot, or one-half ( 1/2) acre or less in size (21,780) square feet, for any other zoned lot; and
    - (ii) The lot is being developed as the principal residence of the owner-builder; and
    - (iii) The lot is not within an area designated as a natural forest community; and
    - (iv) The trees are not specimen trees.
  - (c) Removal of any dead tree.
  - (d) Removal of trees within State-approved plant nurseries and botanical gardens, provided said trees were planted and are growing for the display, breeding, propagation, sale or intended sale to the general public in the ordinary course of business.
  - (e) Removal of trees for the establishment, maintenance and operation of a bona fide grove or bona fide tree nursery, except when the proposed tree removal is to occur in a natural forest community designated under Resolution No. 1764-84 or under subsequent revisions of the natural forest community maps or when the proposed tree removal will affect specimen trees as defined herein. Any person desiring to remove trees pursuant to this provision shall obtain written approval from the Department prior to the commencement of any such activities under this exemption.
  - (f) Removal of any of the following tree species (provided the activity is not within a natural forest community, in which case a permit shall be required, but all application and permit fees shall be waived by the department):
    - (i) *Melaleuca quinquenervia* (cajeput or paperbark tree).
    - (ii) *Casuarina* spp. (Australian pine, beefwood).

- (iii) *Schinus terebinthifolius* (Brazilian pepper).
- (iv) *Bischofia javanica* (bishopwood).
- (v) *Ricinus communis* (castorbean).
- (vi) *Psidium guajava* (guava).
- (vii) *Albizia lebbek* (woman's tongue).
- (viii) *Acacia auriculaeformis* (earleaf acacia).
- (ix) *Schefflera actinophylla* (Queensland Umbrella Tree).
- (x) *Araucaria heterophylla* (Norfolk Island Pine).
- (xi) *Metopium toxiferum* (poison wood).
- (xii) *Adenanthera pavonina* (red sandalwood).
- (xiii) *Cupaniopsis anacardioides* (carrotwood).
- (xiv) *Dalbergia sissoo* (Indian dalbergia, sissoo).
- (xv) *Ficus microcarpa* (=R. nitida; =F. retusa var. nitida) (laurel fig).
- (xvi) *Flacourtia indica* (governor's plum).
- (xvii) *Hibiscus tiliaceus* (mahoe).
- (xviii) *Leucaena leucocephala* (lead tree).
- (xix) *Mimosa pigra* (catclaw mimosa).
- (xx) *Thespesia populnea* (seaside mahoe).

(g) Removal of any tree which has been destroyed or effectively destroyed by an Act of God, or by acts outside of the control of any person, individually or otherwise, who has or had a legal, beneficial or equitable interest in the real property upon which such tree is located, which acts could not have been prevented by the exercise of reasonable care by any such person, individually or otherwise, who has or had a legal, beneficial or equitable interest in the real property upon which such tree is located. Where a tree has been destroyed or effectively destroyed by acts outside of the control of a person who has or had a legal, beneficial or equitable interest in the real property upon which such tree is located, which acts could not have been prevented by the exercise of reasonable care by such person, this provision shall be construed to impose joint and several liability upon the person(s) destroying or effectively destroying such tree, and to exempt from liability for such destruction or effective destruction the person who has or had a legal, beneficial or equitable interest in the real property upon which such tree is located.

(h) Removing, trimming, cutting or altering of any mangrove tree or removal of any tree located upon land which is wetlands as defined in Section 24-5. Trees located upon land which is wetlands as defined in Section 24-5 and mangrove trees located anywhere in Miami-Dade County shall be subject to the permitting requirements of Article IV of this chapter.

(i) Removal of tree within a bona fide fruit grove for the express purpose of converting said bona fide fruit grove to another bona fide agricultural purpose, provided however, that the owner of the real property upon which the bona fide fruit grove is planted has entered into a covenant agreement with Miami-Dade County in the form approved by the Board of County Commissioners, which covenant stipulates that said property shall only be used for bona fide agricultural purposes for a period of five (5) years from the date of execution. The form for said covenant agreement shall be approved by the Board of County Commissioners by resolution concurrently with the approval of this ordinance so

that all covenant agreements submitted pursuant to this provision can be executed and accepted by the director of DERM and then recorded in the Official Records of Miami-Dade County without the necessity of additional public hearings. In the event that the provisions of said covenant are not complied with, the Director of DERM may commence an action in law or equity to ensure adherence with the replanting requirements contained in Section 24-49.4 of the Miami-Dade County Code.

(5) Any mortgagee with respect to property upon which any violation of this tree ordinance has occurred shall not be liable for such violation unless, prior to said violation, said mortgagee has foreclosed upon said property or participated in the management or control of said property, or unless said mortgagee has effected or caused the tree ordinance violations occurring on said property.

(6) Notwithstanding the provisions of Section 24-31(7) herein, if actions or omissions constituting a violation of this article occurred at a time when the completed actions or omissions were not prohibited by law, such completed actions or omissions shall not constitute a violation of this article.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

### **Sec. 24-49.1. Permits Generally.**

Tree removal permits are required for the removal or relocation of any tree not specifically exempted under Section 24-49(4). The Department shall provide permit application forms which shall be used by permit applicants. An owner, agent of the owner, or lessee of a property may apply for a tree removal permit. If the permit application is a lessee or agent of the owner, a statement from the owner of the property indicating that the owner has no objection to the proposed tree removal shall be submitted with the application. The permit applicant shall submit to the Department a completed application form. Permit application forms shall be accompanied by two (2) sets of site plans which are subject to review and approval by the Department. The site plan shall include the locations of all existing tree resources and all proposed structures or utilities which may require removal or relocation of trees. The Department may require that said plans be prepared by either a landscape architect, architect or an engineer registered in the State of Florida. If the submitted site plan does not provide sufficient information to determine which trees will be affected by the proposed development, the Department may require that a tree survey of the site be prepared and submitted to the Department for review.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

### **Sec. 24-49.2. Review and evaluation of permit applications, natural forest communities standards, specimen tree standards.**

A review of each completed tree removal permit application shall be conducted by the Department. This review and all actions taken by the Department under the provisions of this article shall be conducted using best available practices from biology, botany, forestry, landscape architecture and other relevant fields, and shall be conducted in a manner that is consistent with all applicable goals, objectives and policies in the Comprehensive Development Master Plan for Miami-Dade County, Florida. Upon receipt of a completed permit application, the Department shall determine whether the site contains any portion of a natural forest community, specimen trees or any other trees subject to the provisions of this article as follows:

(1) If a site contains any portion of a natural forest community, then the provisions of Section 24-49.2(1) shall apply. If any person is in doubt as to whether a particular property has been designated as a natural forest community, said person may request a written determination from the Department. Said written determination shall state

whether or not a particular property has been so designated by the Miami-Dade County Commission in the forest community maps under Resolution 1764-84 and shall be prepared by the Department within twenty (20) days of receipt of said request.

Any property owner of a designated natural forest community site may request that the Department verify the designated boundaries of a specific natural forest community site or may request that a specific site be deleted from the approved natural forest community maps. Requests for verification of the designated boundaries of a specific natural forest community site or the deletion of a specific site from the approved maps shall be made in writing to the Department. Upon receipt of such requests, Departmental staff shall inspect the site and make a determination whether the approved boundaries accurately reflect the current boundaries of a natural forest community as defined herein, or whether a site should be deleted from the approved maps. If it is determined that the approved boundaries of a specific natural forest community site are not longer accurate, the Director or his designee shall modify the approved boundary of the natural forest community. One (1) copy of the modified boundary shall be furnished to the person who originated the request within thirty (30) days of receipt of the original request and another copy shall be made permanently available at the Department for reference by the public. If it is determined that a specific natural forest community site in its entirety no longer meets the definition of a natural forest community as defined herein, the Director shall recommend to the Board of County Commissioners that the site be deleted from the approved natural forest community maps.

(2) If a site contains any specimen trees, then the provisions of Section 24-49.2(II) shall apply.

(3) If there are trees present on a site other than any portion of a natural forest community or specimen trees, then the replacement provisions of Section 24-49.4 shall apply.

(4) In the event that a site contains any combination of natural forest community, specimen trees or other trees, then shall be applied in proportion to the presence of each type of tree or Sections 24-49.2(I), 24-49.2(II), and 24-49.4 community.

The standards to be applied in reviewing tree removal permit applications involving natural forest communities or specimen trees are as follows:

(I) *Natural Forest Communities Standards.*

(1) Upon receipt of an application for tree or understory removal work in a natural forest community, Departmental staff shall verify that the site currently meets the definition of a natural forest community as defined herein. If Departmental staff determine that a site no longer meets the definition of a natural forest community, then the Director shall recommend to the Board of County Commissioners that the site be deleted from the natural forest community maps. Upon approval by resolution of the Board of County Commissioners, the site will no longer be subject to the provisions of Section 24-49.2(I), but may nevertheless be subject to the provisions of Sections 24-49.2(II) and 24-49.4. In the event that Departmental staff determine that the site currently meets the definition of a natural forest community as defined herein, but the boundary line shown on the approved maps no longer accurately reflects the boundary of a natural forest community as defined herein, the boundary of the natural forest community as shown on the approved maps shall be modified by the Director or his designee. One (1) copy of the modified boundary shall be furnished to the property owner and another copy shall be made permanently available at the Department for reference by the public. If the boundaries of a natural forest community



are modified, only that area encompassed within the modified boundary of the natural forest community shall be subject to the provisions of this section.

(a) Except as provided in Section 24-49.2(l)(1)(c) below, a permit shall not be issued to clear more than ten (10) percent of the canopy and understory of any hardwood hammock natural forest community or more than twenty (20) percent of the canopy and understory of any pineland natural forest community, provided said sites are five (5) acres or greater. If a site has a total area of less than five (5) acres and the natural forest community covers all or a portion of the site, a permit may be issued to clear up to one-half ( 1/2) acre within a hammock natural forest community and up to one (1) acre within a pineland natural forest community, only if the clearing of ten (10) percent or twenty (20) percent, respectively, does not allow some use of the property.

(b) The remaining portions of all natural forest community sites, outside of the areas where tree and understory removal have been permitted by the Department, shall be deemed preserve areas and shall be left in a natural state. Additional clearing of trees or understory shall be prohibited in these preserve areas, except as authorized by other provisions of this article. Firebreaks for pineland natural forest community preserves shall be permitted, and the total area encompassed by the firebreaks (up to a maximum of ten (10) percent of the natural forest community site) shall not be included in the total area which is permitted to be cleared, pursuant to Section 24-49.2(l)(1)(a) and (c). Required dedicated public rights-of-way and required public utility easements in pineland and hammock natural forest communities shall be excluded (up to a maximum of ten (10) percent of the natural forest community site) from the total areas permitted to be cleared, pursuant to Section 24-49.2(l)(1)(a) and (c). The criteria for determining which portion of a natural forest community shall be preserved are as follows:

- (i) Whether the preservation area affords maximum protection to rare, threatened and endangered species.
- (ii) Whether the preservation area affords maximum protection to areas of high wildlife utilization such as, but not limited to, nesting or breeding areas.
- (iii) Whether the preservation area is located to minimize the number of trees and understory vegetation that is to be removed and disturbed for development.
- (iv) Whether the preservation area is located to protect the geological and archaeological value of the site.
- (v) Whether the preservation area is located contiguous with another natural forest community.

(c) Permits for tree and understory removals within natural forest communities that are issued in accordance with Section 24-49.2(l)(1)(a) and (b) above shall not require any tree or understory replacement. As an alternative to Section 24-49.2(l)(1)(a), above, a permit may be issued to clear up to an additional ten (10) percent of a pineland natural forest community, provided that tree

and understory replacement are a requirement of the permit. Said tree and understory replacement shall provide for the replacement of one hundred (100) percent canopy coverage equal to the square footage of the additional area to be cleared regardless of the actual tree canopy contained therein to account for the replacement of the trees and understory, pursuant to the provisions of Section 24-49.4(1)(b)(i).

(d) Any permit issued for the removal of trees and understory within a natural forest community shall include a specific requirement which allows a minimum of fifteen (15) days for the salvaging of native plant materials within the area which is permitted to be cleared. However, any person desirous of salvaging plant materials must first have authorization from the permittee or owner of the property, which authorization shall not be unreasonably withheld. The Department shall maintain a list of persons interested in salvaging native plant materials and shall notify them immediately upon issuance of such a permit.

(2) Alternatives to the provisions of Section 24-49.2(l)(1). In order to provide for unique design considerations for the replacement requirements in Section 24-49.2(l)(1)(c) above, and to address natural forest community sites which are within the 1990 Urban Development Boundary, the following shall apply:

(a) Alternative tree and understory replacement plans may be submitted for projects which require mitigation, pursuant to Section 24-49.2(l)(1)(c) above, that are outside of the 1990 Urban Development Boundary. Said alternative plan shall be prepared by a landscape architect or other individual knowledgeable in the field of natural area restoration, and shall indicate the deviations from the standard requirement and justification for approval.

(b) Alternative tree and understory replacement and preservation plans may be submitted for projects which affect natural forest communities which are located within the 1990 Urban Development Boundary and which cannot meet the express terms of Section 24-49.2(l)(1). In such cases, the applicant shall have the burden of demonstrating that a proposed project meets the intent of this article and that the provisions of Section 24-49.2(l)(1) cannot be met.

(i) At a minimum, an alternative tree and understory replacement and preservation plan shall include:

1. A statement sealed by a landscape architect registered in the State of Florida that indicates that he has prepared the submitted plan and that the intent of this article can effectively be met through the submission of an alternative plan; provided, however, if the project only encompasses a single family residence with ancillary facilities, then said statement and plan may be made by an individual knowledgeable in the field of natural area restoration;

2. The proposed location of all vegetation preservation and replantings (consisting exclusively

of native species), all property lines, and all proposed or existing structures, driveways and utility easements; and

3. A tabulation that identifies any deviations from the requirements of Section 24-49.2(l)(1) and explicitly provides for equivalent compensation by alternative replanting (consisting exclusively of native species) or trust fund contributions.

(ii) Approval of the plan shall be determined by the Department. The Department shall consider the following factors in evaluating the alternative preservation plan:

1. Whether the proposed plan preserves a portion of the natural forest community.

2. Whether the proposed plan provides for on-site or off-site replanting, including understory replanting.

3. Whether the proposed plan provides for an equitable contribution to the Miami-Dade County Tree Preservation Trust Fund when the minimum preservation standards of Section 24-49.2(l)(1) are not met.

(3) Modified preservation and replacement plan based upon justifiable, detrimental reliance allowed. In order to address these cases in which a person has purchased natural forest community property in justifiable, detrimental reliance upon written representations of Department staff made prior to the enactment of Chapter 24-49 of the Code of Miami-Dade County regarding replacement and preservation requirements for said property, the following shall apply:

Any owner of a natural forest community property who has purchased natural forest community property in justifiable, detrimental reliance upon written representations of Department staff made prior to the enacting of Chapter 24-49 [Article IV] of the Code of Miami-Dade County may submit to the Department an application for approval of a modified replacement and preservation plan which shall incorporate the replacement and preservation requirements reflected in the agreement relied upon. In such cases, the applicant shall have the threshold burden of demonstrating to the Department and the Board of County Commissioners the detrimental, justifiable reliance which provides the basis for his application.

(a) The Department shall make its recommendation to the Board of County Commissioners, and the Board of County Commissioners shall make its decision, for denial or approval with conditions of the modified replacement and preservation plan. In evaluating the proposed modified preservation and replacement plan, and in making the threshold determination of whether the applicant has purchased natural forest community property in justifiable, detrimental reliance upon written representations of Department staff made prior to the enactment of Chapter 24-49 [Article IV] of the Code of Miami-Dade County, the Department shall make its recommendation, and the Board of County

Commissioners shall make its decision, based upon the following factors:

(i) At a minimum, the application for modified replacement and preservation plan shall reflect that the elements provided for in Section 24-49.2(l)(2)(b)(i)1, 2, and 3 above are included in the proposed plan, provided, however, that, if the Board of County Commissioners determines that the applicant purchased natural forest community property in justifiable, detrimental reliance upon written representations of Department staff made prior to enactment of Chapter 24-49 of the Code of Miami-Dade County, and if the written representations relied upon did not address tree replacement or tree compensation requirements, then the tree replacement or tree compensation requirements applicable at the time of such justifiable, detrimental reliance may be made a part of the modified replacement and preservation plan.

(ii) In addition to the elements provided for in Section 24-49.2(l)(2)(b)(i)1, 2, and 3, the application for modified replacement and preservation plan shall include information regarding the following factors:

1. The nature of the written representations relied upon: Whether the representations by the Department could be construed to be a final determination regarding preservation and replacement requirements for the subject property; and

2. The existence of a permit or written consent agreement with the Department: Whether a tree removal permit or consent agreement with the Department was entered into by the owner of the subject property or his immediate predecessor in title prior to purchase of the subject property; and

3. The circumstances of the property purchase: Whether (a) the purchase of the subject property occurred before or after enactment of Chapter 24-49 of the Code of Miami-Dade County, and (b) the purchase of the subject property occurred close in time to the date of the written representations relied upon, and (c) the owner has legal representation or other professional assistance in negotiating and concluding said purchase; and

4. Subsequent dealings with the Department: Whether the applicant had dealings with the Department occurring subsequent to the date of the written representations relied upon and prior to the date of purchase of the subject property.

The Board of County Commissioners shall hold a public hearing concerning the application. A notice of the time and place of said public hearing shall be published in a newspaper of general circulation in Miami-Dade County a

minimum of seven (7) days prior to the public hearing. Said notice shall include a brief description of the proposed replacement and preservation plan and the location of the subject natural forest community property.

(iii) Appeal from denial of modified preservation and replacement plan. Any person aggrieved by any decision of the Board of County Commissioners pursuant to this Section 24-49.2(l)(3) may seek judicial review in accordance with the Florida Rules of Appellate Procedure.

(II) *Specimen Trees Standards.*

(1) *Specimen trees application.* Specimen trees shall be preserved whenever reasonably possible. Upon receipt of an application to remove a specimen tree, the Department shall consider the following factors in evaluating said application:

- (a) Size and configuration of the property.
- (b) Size and configuration of any proposed development.
- (c) Location of the tree relative to any proposed development.
- (d) Whether or not the tree can be preserved under the proposed plan or any alternative plan.
- (e) Health, condition and aesthetic qualities of the tree.
- (f) Whether the tree poses a threat to persons or property.

(2) *Alternate plans.* If, upon review of the factors enumerated in Section 24-49.2(II)(1), the Department determines that a specimen tree cannot reasonably be preserved under the proposed plan, then the applicant shall provide an alternate plan when feasible, which shall include preservation of the specimen tree and design alterations consistent with the scope and intent of the initially-proposed plan. Alterations consistent with the scope and intent of the initially-proposed plan may include, but shall not be limited to:

- (a) An adjustment of building orientation on a site.
- (b) An adjustment of lot lines within a site proposal for more than one (1) lot when said adjustment will not cause an unreasonable loss of usable space. An applicant shall have the burden of proof in the determination of what constitutes an unreasonable loss of usable space.

(3) *Specimen tree relocation.* If preservation of the specimen tree and any alternate design consistent with the scope and intent of the initial plan are mutually exclusive, then the Department may issue a permit to relocate the specimen tree. If the tree removal permit requires relocation, then the applicant shall be required to relocate the tree in accordance with the standards set forth in Section 24-49.6.

(4) *Removal of specimen trees.* If relocation of the specimen tree is not feasible, due to the size, health, location, species or any other factor, then a permit may be issued for removal, and tree replacement shall be required.

(5) *Replacement requirements for specimen trees.* As a condition of the issuance of a tree removal permit for the removal of a specimen tree, tree

replacement requirements shall be twice those specified in Section 24-49.4(2)(c). In the event that replacement is not feasible on-site, then alternative off-site replacement shall be required, or, as a last alternative, there shall be a contribution to the Miami-Dade County Tree Trust Fund for the full value of the replacement trees. Notwithstanding the above, there shall also be an equitable contribution to the Miami-Dade County Tree Trust Fund for the irreplaceable loss of the aesthetic and environmental contributions of the specimen tree(s), according to the contribution schedule established by the Board of County Commissioners, pursuant to Section 24-49.9.

(6) *Exemptions from specimen tree replacement requirements.* An applicant may be exempt from the replacement requirements of Section 24-49.2(11)(5), but subject to the tree replacement requirements in Section 24-49.4(2)(c), under the following circumstances:

(a) Upon submittal of a statement from a landscape architect registered in the State of Florida which indicates that a specimen tree, due to disease, condition, growth habit or any other reasonable botanical factor, does not provide the aesthetic or environmental contribution associated with a specimen tree. Said statement shall include the specific reason(s) for the claimed exemption from the provisions of Section 24-49.4(2).

(b) When preservation of the specimen tree would cause a foreseeable risk to property.

(c) When a site contains more than one (1) specimen tree, and fifty (50) percent or more of the existing specimen trees and at least fifty (50) percent of the existing specimen tree canopy area is preserved.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

### **Sec. 24-49.3. Preliminary review of projects involving tree removal or relocation.**

The Department shall review and comment on the following actions: Any application for zoning relief which requires a public hearing before the Miami-Dade County Community Zoning Appeals Board or the Board of County Commissioners; applications for plat approval; administrative site plan review; applications for approval of development plans by the developmental impact committee and the South Florida Regional Planning Council; proposed plans for new roadways or improvements to highway design projects; proposed plans for new public park and recreational areas and other public facilities. This review procedure shall determine if a tree removal permit is required under Section 24-49, and whether the following standards, when applicable, are adhered to:

(1) Any proposed action that does not involve specimen trees or development in a natural forest community shall be subject to the replacement standards in Section 24-49.4.

(2) Development within natural forest communities or involving specimen trees:

(a) If it is determined that the proposed development site is within a natural forest community or involves removal of a specimen tree, the standards set forth in Section 24-49.2 shall apply. Proposed site actions that are not in accordance with said standards shall receive a recommendation of denial from the Department.

(b) Notwithstanding any provision of this Code, no County or municipal officer,

agent, employee or Board shall approve, grant or issue any building permit, certificate of use and occupancy (except for changes in ownership), platting action (final plat, waiver of plat or equivalent municipal platting action) or zoning action requiring a public hearing before the Miami-Dade County Community Zoning Appeals Board or the Board of County Commissioners for any land use involving division of property into parcels less than five (5) acres within natural forest communities without obtaining the prior written recommendation of the DERM or his designee. The DERM or his designee shall issue his written recommendation of approval only if the DERM or his designee determines that a preservation area equivalent in size to the minimum preservation area required for the site under Section 24-49.2(l) has been designated prior to the proposed action.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

#### **Sec. 24-49.4. Replacement requirements for tree removal.**

(1) *Tree replacement requirements.* As a condition of the issuance of a tree removal permit, the permittee shall be required to replace trees that are authorized to be removed under the provisions of this article. The number of trees and number of species of trees required for replacement shall be determined according to the procedures contained herein. When the replacement canopy area exceeds ten thousand (10,000) square feet, replacement shall be described in a landscape replacement plan which shall meet the minimum requirements of Section 24-49.4(3), and no tree removal permit shall be issued until said plan has been approved by the Department, except as provided in Section 24-49.4(4).

(a) The following are exempt from this section:

- (i) All tree removal activities included in Section 24-49(4).
- (ii) All tree removal permits affecting natural forest community sites which meet the specific preservation requirements of Section 24-49.2(l)(1)(a) and (b).
- (iii) Trees which have been successfully relocated, pursuant to Section 24-49.6.

(b) Natural forest community replacement requirements.

(i) Pursuant to Section 24-49.2(l)(1)(c), tree and understory replacement for pineland natural forest communities shall include the following:

1. All species proposed for replanting shall be native to Miami-Dade County's pinelands.
2. For each additional one-half ( 1/2) acre which is permitted to be cleared, fifty (50) replacement pine trees (*Pinus elliotti* var. *densa*) shall be provided. Said pine trees shall meet the standards in either Section 24-49.4(4)(a)(i) or (ii); if the pine trees meet the standards of Section 24-49.4(4)(a)(i), then six hundred twenty-six (626) pineland understory and ground cover plants which meet the standards of Section 24-49.4(4)(a)(ii) shall be provided; if the pine trees meet the standards of Section 24-49.4(4)(a)(ii), then six hundred seventy-six (676) pineland understory and ground cover plants which meet the standards of Section 24-49.4(4)(a)(ii) shall be provided. The number of replacement plants for areas which are less than one-half ( 1/2) acre shall be determined on a prorated basis.
3. The diversity of understory and ground cover species provided shall be maximized to the greatest extent possible based on availability of materials.

4. An eighty (80) percent survival rate after one (1) year shall be guaranteed for all pineland natural forest community replacement plantings.

(ii) As an alternative to Section 24-49.4(1)(b)(i) above, a monetary contribution, equal to the cost of the replacement plants, labor costs for installation, and survival rate guarantee costs, may be made to the Miami-Dade County Tree Trust Fund. Said funds shall be utilized by the County to reestablish pineland on County-owned property or to purchase pinelands for preservation purposes.

(iii) All other applications for the removal of trees or understory within natural forest communities which meet the requirements of Section 24-49.2(I)(1)(a) and (b) or Section 24-49.2(I)(2) shall not require any tree or understory replacement.

(c) Specimen tree replacement requirements. As required in Section 24-49.2(II)(5), the replacement requirements for the removal of a specimen tree shall be twice those specified in this section, except as noted in Section 24-49.2(II)(6).

(2) *Procedures for determining tree replacement requirements.* The Department shall determine the total number of replacement trees required for the issuance of a tree removal permit according to the following procedural steps:

(a) *Step 1: Determining existing tree canopy coverage on-site.* The area of existing tree canopy coverage of a site shall be determined by the Department, using one (1) or any combination of the following methods: Review of aerial photography; on-site inspection; and review of a tree survey. The Department may require the applicant to submit a tree survey for the purpose of this determination.

(b) *Step 2: Determining impact area of proposed project.* The area of existing canopy coverage which will be affected (impact area) by the applicant's proposed development shall be determined by the Department. This determination shall be based on a site plan and completed tree removal permit application form submitted to the Department by the applicant.

(c) *Step 3: Determining number of replacement trees required to be planted.* The total number of trees required for replacement shall be based on the area of impact and the category of replacement tree selected by the applicant. Each replacement tree shall compensate for a portion of the tree canopy lost in the impact area. The following table shall be used as a standard for determining the required number of replacement trees:

TABLE INSET:

<i>Category Replacement Tree:</i>	<i>Portion of Impact Area that each replacement tree compensates for in square feet:</i>
Shade Tree 1	500
Shade Tree 2	300
Palm Tree 1	300
Palm Tree 2	100
Small Tree	200

Any combination of shade trees, palm trees, or small trees shall be acceptable replacement, provided the total number of trees from all replacement categories compensate for the lost canopy. In the event that a replacement tree actually has more canopy coverage at the time of planting than the amount of credit allowed under the tree replacement formula above, then the applicant shall receive full credit for the canopy coverage provided by the replacement tree at the time of planting. The applicant shall submit a list of proposed replacement trees on a form provided by the Department,



except when the total number of replacement trees exceeds twenty (20), and then the applicant shall be required to submit a landscape replacement plan consistent with the provisions of Section 24-49.4(3). Proposed replacement lists or plans are subject to Departmental approval. The Department shall approve proposed replacement trees that are consistent with the standards of Section 24-49.4(3).

(d) *Step 4: Location of replacement trees.* Specific placement of replacement trees on-site shall be determined by the applicant. If the site cannot accommodate the required replacement trees because of insufficient planting area as determined by the Department, then the applicant shall be required to plant replacement trees at an off-site location subject to Departmental approval, or, as a last alternative, shall provide an equitable contribution to the Miami-Dade County Tree Trust Fund to compensate for those replacement trees which cannot be accommodated on site. The amount of the contribution shall be determined according to the provisions of Section 24-49.9. If any applicant is in doubt as to whether a particular site can sufficiently accommodate the required number and species of replacement trees as initially determined by the Department, then the applicant shall submit a statement prepared by a landscape architect registered in the State of Florida, indicating whether, in his professional opinion, the site can accommodate the required number of trees and species. Upon receipt of said statement, the Department shall reevaluate its initial determination and provide the applicant with a revised determination of requirements. In the event that the landscape architect is in agreement with the Department's determination of available planting space, however, due to design considerations, the applicant would elect to propose an alternative landscape enhancement plan or an equitable contribution to the Miami-Dade County Tree Trust Fund, then the provisions of Section 24-49.4(4) or 24-49.2(II)(5), respectively, shall apply.

(e) *Step 5: Minimum species diversity standards.* When more than ten (10) trees are required to be planted in accordance with the provisions of this section, a diversity of species shall be required. The number of species to be planted shall be based on the overall number of trees required. The applicant shall be required to meet the following minimum diversity standards:

TABLE INSET:

<i>Required Number of Trees</i>	<i>Minimum Number Species of</i>
11--20	2
21--50	4
51 or more	6

Permittees shall not be required to plant in excess of six (6) species. The number of trees of each species planted shall be proportional to the number of species required. A minimum of fifty (50) percent of all replacement trees planted shall be native to Miami-Dade County, and no more than thirty (30) percent of the replacement trees shall be palms. However, when native trees are removed, all replacement trees shall be native species. As an alternative to the minimum species diversity required herein, an applicant may propose an alternative species diversity in an alternative landscape enhancement plan described in Section 24-49.4(4).

(f) *Step 6: Minimum standards for replacement trees.*

- (i) All replacement trees shall have a minimum quality of a Florida No. 1 grade or better.
- (ii) The Department shall maintain a list of species for each category of replacement tree. This list may be amended from time to time, as necessary. Replacement tree heights shall be determined by overall height measured from

where the tree meets the ground to the top-most branch.

1. All category 1 replacement shade trees shall be a minimum of twelve (12) feet in height at the time of planting and at maturity should have a canopy coverage of five hundred (500) square feet under normal growing conditions.
2. All category 2 replacement shade trees shall be a minimum of eight (8) feet in height at the time of planting and at maturity should have a canopy coverage of five hundred (500) square feet under normal growing conditions.
3. All category 1 replacement palm trees shall have a minimum height of ten (10) feet at the time of planting and at maturity should have a canopy coverage of three hundred (300) square feet under normal growing conditions.
4. All category 2 replacement palm trees shall have a minimum height of three (3) feet at the time of planting and at maturity should have a canopy coverage of one hundred (100) square feet under normal growing conditions.
5. All replacement small trees shall have a minimum height of six (6) feet at the time of planting and at maturity should have a canopy coverage of two hundred (200) square feet under normal growing conditions.

(3) *Requirements for a landscape replacement plan.* Except as provided in Section 24-49.4(4), a landscape replacement plan shall be submitted to the Department by the permit applicant when a minimum of ten thousand (10,000) square feet of replacement canopy is required under the provisions of Section 24-49.4(2). All landscape replacement plans shall meet the following minimum standards:

- (a) The number of trees, number of species of trees, and size of trees proposed for planting shall be consistent with Section 24-49.4(2).
- (b) The applicant shall submit a site plan that includes the proposed replacement locations of all replacement plantings and tree relocations, all property lines, and all proposed and existing structures, driveways and utility easements.
- (c) The canopy spread of any tree that is proposed for preservation shall be shown on the plan. Where a portion of the canopy of a tree or trees shall be removed without removal of the trees, a notation shall be made on the plan.

(4) *Alternatives to the provisions of Sections 24-49.4(2) and 24-49.4(3).* Instead of replacing all affected trees pursuant to the provisions of Sections 24-49.4(2) and 24-49.4(3), an applicant may propose to relocate existing trees or propose a unique project design which provides reasonable assurance that the project complies with the intent to maintain tree canopy.

- (a) Generally, as an exception to the requirements of Section 24-49.4(2), and in order to provide for development of exceptional or unique landscape designs which cannot meet the express terms of Section 24-49.4(2), an applicant may submit an alternative landscape enhancement plan. As an alternative to the requirements in Section 24-49.4(2)(c), tree replacement credit may be granted for planting shrubs or ground covers, based upon the following table, provided, however, that a minimum of fifty (50) percent of the required canopy replacement is achieved by using shade trees and palm trees as required by Section 24-49.4(2)(c).

TABLE INSET:

Category of Tree Alternative	Portion of Impact Area hat Each Tree Alternative Shrub,
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<i>Shrub or Ground Cover:</i>	<i>or Ground Cover Compensates for in Square Feet:</i>
Shrub 1 (including small palms)	60
Shrub 2/Ground Cover	30

(i) All category 1 tree alternative shrubs shall be a minimum of two (2) feet in height at the time of planting and at maturity should have a canopy coverage of sixty (60) square feet under normal growing conditions.

(ii) All category 2 tree alternative shrubs or ground covers shall have a root system sufficient to sustain growth and at maturity should have a canopy coverage of ten (10) to twenty (20) square feet under normal growing conditions.

(b) The applicant shall have the burden of demonstrating that a design meets the intent of this article. At a minimum, an alternative landscaping enhancement plan shall include, without limitation:

(i) A statement, prepared by a landscape architect registered in the State of Florida, which indicates that the intent of this article can be effectively met through the submission of the alternative design; and

(ii) A site plan, prepared by a landscape architect registered in the State of Florida, that includes the proposed location, scientific name or description of all vegetation to be preserved or planted, all property lines, and all proposed or existing structures, driveways and utility easements; and

(iii) A tabulation that identifies any deviations from the requirements of Section 24-49.4(2) and explicitly provides tree replacement alternatives.

(c) The Department shall approve an alternative landscape enhancement plan when:

(i) The design preserves and incorporates existing vegetation; and

(ii) The design exceeds the minimum requirements or equivalent of Section 24-49.4(2).

(d) Preservation credit for relocated trees. Permittees who successfully relocate trees shall receive full credit for the relocated trees and the tree replacement requirements herein shall not apply to such relocated trees. All relocated trees shall meet the standards set forth in Section 24-49.6 for tree relocation.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

#### **Sec. 24-49.5. Tree protection requirements during construction.**

(1) During site development, protection requirements for trees designated for preservation under an approved tree removal permit shall include, but not be limited to, the following:

(a) Protective barriers shall be placed around each tree, cluster of trees, or the edge of the preservation area no less than six (6) feet (in radius) from the trunk of any protected tree cluster or preservation area unless a lesser distance is specified by the Department. Protective barriers shall be a minimum of four (4) feet above ground level and shall be constructed of wood, plastic or metal, and shall remain in place until development is completed and the Department has authorized their removal. Protective barriers shall be in place prior to the start of any construction.

(b) Understory plants within protective barriers shall be protected.

(c) No excess oil, fill, equipment, building materials or building debris shall be placed

within the areas surrounded by protective barriers, nor shall there be disposal of any waste material such as paints, oils, solvents, asphalt, concrete, mortar or any other material harmful to trees or understory plants within the areas surrounded by protective barriers.

(d) Trees shall be braced in such a fashion as to not scar, penetrate, perforate or otherwise inflict damage to the tree.

(e) Natural grade shall be maintained within protective barriers. In the event that the natural grade of the site is changed as a result of site development such that the safety of the tree may be endangered, tree wells or retaining walls are required.

(f) Underground utility lines shall be placed outside the areas surrounded by protective barriers. If said placement is not possible, disturbance shall be minimized by using techniques such as tunnelling or overhead utility lines.

(g) Fences and walls shall be constructed to avoid disturbance to any protected tree. Post holes and trenches located close to trees shall be dug by hand and adjusted as necessary, using techniques such as discontinuous footings, to avoid damage to major roots.

(2) Exceptions to the provisions of Section 24-49.5(1). Exceptions to the requirements of Section 24-49.5(1) shall be approved only when the permittee receives specific written authorization from the DERM or his designee. The DERM or his designee shall not issue his written approval unless the DERM or his designee determines that the affected tree(s) can be adequately protected without meeting the requirements of Section 24-49.5(1), or due to exceptional circumstances it is not practical or reasonable to meet the requirements of Section 24-49.5(1).

(3) If the requirements of Section 24-49.5(1)(a) through (g) are not adhered to by the permittee and the trees are effectively destroyed, then all such trees shall be replaced according to the standards of Section 24-49.4(2), in addition to being subject to the penalty provisions of Sections 24-29, 24-30 and 24-31 of the Code of Miami-Dade County.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

### **Sec. 24-49.6. Tree relocation standards.**

The relocation of any tree that is subject to the provisions of this article shall be consistent with the following minimum standards:

(1) Trees other than palms:

(a) Tree roots shall be severed in such a manner as to provide a root ball which is sufficient to ensure survival of the tree when relocated. A sufficiently-sized planting hole shall be provided at the relocation site to ensure successful regrowth.

(b) After root severing, adequate time shall be allowed prior to replanting to ensure survival of the tree(s). After root severing and prior to relocation, tree(s) shall be watered a minimum of twice weekly. After relocation, tree(s) shall be watered a minimum of twice weekly until the tree(s) are established.

(c) During removal and transportation of the tree, the root ball and vegetative portions of the tree shall be protected from damage from wind or injury.

(d) Any tree that dies or becomes nonviable within one (1) year of relocation shall be replaced according to the standards set forth in Section 24-49.4(2).

(2) Palms:

- (a) A ball of earth at least one (1) foot from the base of the tree shall be moved with the tree.
- (b) Fronds shall be securely tied around the bud prior to relocation and shall remain securely tied around the bud during the entire relocation process and for a minimum of one (1) week after relocation.
- (c) The bud shall be protected from damage or injury during relocation.
- (d) Any palm that dies or becomes nonviable within one (1) year of relocation shall be replaced according to the standards set forth in Section 24-49.4(2).

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

**Sec. 24-49.7. Permit issuance, confirmation of natural forest community maps, existing permits, approvals and consent agreements.**

(1) The Department shall deny an application, or approve an application and issue a permit (subject to conditions, limitations or restrictions), for the activity proposed under the permit application, provided:

- (a) The required application fee and permit fee is submitted to Miami-Dade County.
- (b) A performance bond, if required, has been posted. As a condition of issuing a tree removal permit, the Department may require the posting of a performance bond to guarantee compliance with all other conditions, limitations, and restrictions of the tree removal permit (the permitted activity), including, without limitation, planting of all required replacement trees. The bond shall be equivalent to one hundred (100) percent of the estimated cost of the permitted activity and may be in the form of a letter of credit, surety, cash, or certificate of deposit. All performance bonds shall remain in force for a minimum of either one (1) year after the actual completion date of the permitted activity (to ensure that any replanted trees which perish are replaced), or until viability of all replanted trees has been achieved, whichever occurs last. However, at the discretion of the DERM or his designee, performance bonds may be partially released in phases based upon partial completion of planting or other permit requirements.
- (c) All required plans or covenants are submitted and are in compliance with the standards herein.

(2) All permits shall clearly specify all conditions, limitations and restrictions required by the Department. The permit applicant shall acknowledge that he fully understands and agrees to comply with all said conditions, limitations or restrictions by signing the permit prior to its issuance.

(3) All tree removal permit applications which remain incomplete for a period of one hundred twenty (120) days shall be denied. A new tree removal permit application shall be required for all work previously proposed under a permit application which has been denied.

(4) The natural forest community maps approved by the Board of County Commissioners on December 12, 1984, by Resolution No. 1764-84, all tree removal permits issued pursuant to Chapter 26B, Department approvals, and all consent agreements executed in order to resolve alleged violations of Chapter 26B of the Code of Miami-Dade County, Florida, are hereby confirmed and shall remain in full force and effect, and all conditions, restrictions and limitations contained therein shall continue to apply, and compliance therewith shall be enforceable pursuant to the provisions of this chapter.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

**Sec. 24-49.8. Permit fees; schedule.**

The Miami-Dade County Department of Environmental Resources Management shall charge and collect application and permit fees and trust fund contributions at the rates established by separate administrative order which shall not become effective until approved by the Board of County Commissioners. Applications from government agencies for tree removals in areas dedicated to public use may, in the discretion of the DERM, be exempted from application fees and permit fees.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

**Sec. 24-49.9. Prohibited plant species.**

(1) With exception of *Ficus benjamina*, the list of exotic pest plant species that may not be sold, propagated or planted anywhere in Miami-Dade County pursuant to Policy 8I of the Conservation Element of the Comprehensive Development Master Plan for Miami-Dade County, Florida, as may be amended from time to time, is hereby incorporated by reference. If present on a development site, they shall be removed prior to development, and their sale, propagation, planting, importation or transportation shall be prohibited.

(2) Definitions for Section 24-49.9(1), Sections 24-49.9(3)(a), 3(b), and 3(c):

(a) *Importation* shall mean the conveyance by any means of plants into Miami-Dade County.

(b) *Planting* shall mean the placing on or setting into the ground of live plant material.

(c) *Propagation* shall mean the physical act of causing plants to multiply by any process of reproduction from plant stock.

(d) *Sale* shall mean the act of transferring or conveying plants to a purchaser for consideration.

(e) *Transportation* shall mean the act of carrying or conveying plants from one (1) place to another for the purpose of sale, planting, importation or propagation.

(3) Variances.

(a) A variance by the Director of DERM from the transportation, propagation and planting prohibitions of this section may be requested, subject to the conditions justifying variance approval outlined below in Section 24-49.9(3)(b)(i) and (ii). Said variance request shall be made in writing to the Director of DERM and shall include the following information:

(i) Name and address of the person or persons requesting the variance.

(ii) Location of the property for which the variance is requested.

(iii) A sketch or drawing indicating the location within the subject property where the planting or field propagation of the otherwise prohibited plant species will occur. (Container propagation shall be exempt from said sketch or drawing requirements.)

(iv) The reason or reasons for requesting the variance.

(b) The Director of DERM may, in his discretion, issue a variance from the provisions of this section based upon the following factors:

(i) Proximity of the subject planting or propagation to any environmentally sensitive areas (e.g., wetlands, hammocks, pinelands, dunes).

(ii) Lack of appropriate alternative plant species to fulfill the same purpose or purposes for planting.

(c) The Director of DERM shall issue or deny a variance request within thirty (30) days of receipt of its receipt, provided the required information described in Section 24-49.9(3)

(a)(i) through (iv) above has been submitted.

(Ord. No. 04-214, §§ 1, 5, 12-2-04)

### DIVISION 3. Environmentally Endangered Lands Program.

#### Sec. 24-50. Title.

This section shall be known as the Environmentally Endangered Lands Program.

#### Sec. 24-50.1. Legislative intent.

The historic loss, fragmentation, and degradation of native wetland and upland forest communities in Miami-Dade County are well documented, and remaining native wetland and upland forest communities are collectively endangered. On May 8, 1990, the electorate of Miami-Dade County authorized the county to exceed the constitutional millage limitation by levying an ad valorem tax of three-quarters of one mil, for a period not to exceed two (2) years, for acquisition, preservation, enhancement, restoration, conservation and maintenance of environmentally-endangered lands for the benefit of present and future generations; and limiting all uses of, and all investment earnings on, such levies to such purposes. It is the intent of the Board of County Commissioners of Metropolitan Miami-Dade County to establish the Environmentally Endangered Lands Program to implement this mandate and to support its purposes to the fullest.

#### Sec. 24-50.2. Definitions.

The following words and phrases, when used in this chapter, shall have the meanings ascribed to them in this section:

- (1) Acquisition proposal shall mean (a) parcel(s) of land which has/have been nominated or recommended for acquisition in accordance with procedures provided for hereinbelow.
- (2) Acquisition project shall mean (a) parcel(s) of land approved by the Board of County Commissioners for acquisition by the county in accordance with procedures provided for hereinbelow.
- (3) Ancillary land shall mean that land which is adjacent to environmental land and which is necessary to the management and protection of the environmental land for such purposes as fence installation, access of maintenance equipment, firebreaks, parking, or other management activities which are indicated in the management feasibility evaluation.
- (4) Bona fide organization shall mean an organization which has an elected board of directors, has adopted a charter, by-laws, or rules of procedure, conducts a meeting of its membership at least annually, and which has been in existence in Miami-Dade County for at least two (2) years prior to the adoption of the ordinance from which this chapter derives.
- (5) Buffer land shall mean that land which is adjacent to publicly-owned

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environmental land or to an environmental land acquisition proposal or project, or that land which is an inholding within publicly-owned environmental land or within an environmental land acquisition proposal or project, and which, if not acquired, would threaten the environmental integrity of the existing resource, or if acquired, would enhance the environmental integrity of the resource.

- (6) Environmental land shall mean that land which contains natural forest or wetland communities, native plant communities, rare and endangered flora and fauna, endemic species, endangered species habitat, a diversity of species, or outstanding geologic or other natural features, or that land which functions as an integral and sustaining component of an existing ecosystem.
- (7) Management shall mean the preservation, enhancement, restoration, conservation, monitoring, or maintenance of the natural resource values of environmentally-endangered lands which have been acquired or approved for management under the Environmentally Endangered Lands Program.

**Sec. 24-50.3. Environmentally Endangered Lands Program established.**

The Metropolitan Miami-Dade County Environmentally Endangered Lands Program (hereinafter referred to as the EEL Program) is hereby established to acquire, preserve, enhance, restore, conserve, and maintain threatened natural forest and wetland communities located in Miami-Dade County, for the benefit of present and future generations. The County Manager shall administer this program in accordance with the procedures and criteria provided for hereinbelow.

**Sec. 24-50.4. Purpose.**

The purpose of the EEL Program shall be:

- (1) To acquire environmentally-endangered lands which contain natural forest or wetland communities, native plant communities, rare and endangered flora and fauna, endemic species, endangered species habitat, a diversity of species, or outstanding geologic or other natural features;
- (2) To acquire environmentally-endangered lands which function as an integral and sustaining component of an existing natural system;
- (3) To protect environmentally-endangered lands which are publicly owned by acquiring inholdings or adjacent properties which, if not acquired, would threaten the environmental integrity of the existing resource, or which, if acquired, would enhance the environmental integrity of the resource;
- (4) To implement the objectives and policies of the Comprehensive Development Master Plan for Metropolitan Miami-Dade County which have been promulgated to preserve and protect environmental protection areas designated in the Plan and other natural forest resources, wetlands, and endangered species habitat;
- (5) To identify Miami-Dade County's best and most endangered environmental

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lands for acquisition and management by evaluating the biological characteristics and viability of the resource, the vulnerability of the resource to degradation or destruction, and the feasibility of managing the resource to maintain its natural attributes;

- (6) To manage environmentally-endangered lands with the primary objective of maintaining and preserving their natural resource values by employing management techniques that are most appropriate for each native community so that our natural heritage may be preserved for present and future generations;
- (7) To use the acquired sites, where feasible within financial constraints and with minimal risk to the environmental integrity of the site, to educate Miami-Dade County's school-age population and the general public about the uniqueness and importance of Miami-Dade County's subtropical ecosystems and natural communities; and
- (8) To cooperate actively with other acquisition, conservation, and resource management programs, including, but not limited to, such programs as the State of Florida Conservation and Recreation Lands program, the Land Acquisition Trust Fund, and Save Our Rivers program, where the purposes of such programs are consistent with the purposes of the EEL Program as stated hereinabove.

**Sec. 24-50.5. Environmentally Endangered Lands Trust Funds.**

- (1) *Creation of the Environmentally Endangered Lands Acquisition Trust Fund.*
  - (a) There is hereby created the Environmentally Endangered Lands Acquisition Trust Fund (hereinafter referred to as the EEL Acquisition Trust Fund) for use in acquiring environmentally-endangered lands in Miami-Dade County. The Finance Director is hereby authorized to establish the EEL Acquisition Trust Fund and to receive and disburse monies in accordance with the provisions of this section.
  - (b) The EEL Acquisition Trust Fund shall receive monies from the following sources:
    - (i) All revenues collected by the County Tax Collector pursuant to the extraordinary millage of three-quarters of one mil of ad valorem tax levied in 1990 and 1991, as approved by referendum on May 8, 1990, except for those revenues dedicated to the Environmentally Endangered Lands Management Trust Fund provided for herein by Section 24-50.5(b)(ii).
    - (ii) All monies accepted by Metropolitan Miami-Dade County in the form of federal, State, or other governmental grants, allocations, or appropriations, as well as foundation or private grants and donations for acquisition of environmentally-endangered lands as provided for by this section.

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- (iii) Such additional allocations as may be made by the Board of County Commissioners from time to time for the purposes set forth herein.
    - (iv) All interest generated from the sources identified in Section 24-50.5(1)(b)(i), (ii), and (iii) hereinabove, except where monies received have been otherwise designated or restricted.
  - (c) The EEL Acquisition Trust Fund shall be maintained in trust by the Board of County Commissioners solely for the purposes set forth herein, in a separate and segregated fund of the County which will not commingle with other County funds until disbursed for an authorized purpose pursuant to Section 24-50.5(1)(d).
  - (d) Disbursements from the EEL Acquisition Trust Fund shall be made only for the following purposes:
    - (i) Acquisition of properties which have been approved for purchase by resolution of the Board of County Commissioners in accordance with the provisions of Sections 24-50.7 through 24-50.11.
    - (ii) All costs associated with each acquisition including, but not limited to, appraisals, surveys, title search work, real property taxes, documentary stamps and surtax fees, and other transaction costs.
    - (iii) Costs of administering the EEL Program, which will be funded from the interest proceeds of the EEL Acquisition Trust Fund until such time as the fund is closed.
    - (iv) Supplementation of the Environmentally Endangered Lands Management Trust Fund, but only by resolution of the Board of County Commissioners.
  - (e) Where any property acquired with EEL Acquisition Trust Fund monies is leased or sold by the County, the proceeds from said lease or sale shall, as determined by the Board of County Commissioners, be committed either to the EEL Acquisition Trust Fund or to the EEL Management Trust Fund for the purposes provided for herein. Such proceeds shall neither be committed to any other fund, nor be used for any other purpose.
- (2) *Creation of the Environmentally Endangered Lands Management Trust Fund.*
- (a) There is hereby created the Environmentally Endangered Lands Management Trust Fund (hereinafter referred to as the EEL Management Trust Fund) for the preservation, enhancement, restoration, conservation and maintenance of environmentally-endangered lands which either have been purchased with monies from the EEL Acquisition Trust Fund (established pursuant to Section 24-50.5(1), or have otherwise been approved for management pursuant to Section 24-50.7(2). The Finance Director is hereby authorized to establish the EEL Management Trust Fund and to receive and disburse monies in accordance with the provisions of this section.
  - (b) The EEL Management Trust Fund shall receive monies from the following

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sources:

- (i) A principal in the amount of ten million dollars (\$10,000,000.00) from those revenues collected by the County Tax Collector pursuant to the extraordinary millage of three-quarters of one mil of ad valorem tax levied in 1990 and 1991, as approved by referendum on May 8, 1990. The principal may be increased as a result of a specific grant, donation, allocation or appropriation therefor.
- (ii) All monies accepted by Metropolitan Miami-Dade County in the form of federal, State, or other governmental grants, allocations, or appropriations, as well as foundation or private grants and donations, for management of lands acquired with the EEL Acquisition Trust Fund or otherwise approved for management pursuant to Section 24-50.7(2). Unless otherwise stated at the time of acceptance, all grant and donation monies received and the interest therefrom shall not be part of the principal and shall be available for disbursement in accordance with Section 24-50.5(2)(d).
- (iii) Such additional allocations as may be made by the Board of County Commissioners from time to time, including allocations from existing trust funds or mitigation funds, or special allocations from the EEL Acquisition Trust Fund as provided for in Section 24-50.5(1)(d)(i). Unless otherwise stated at the time of the allocation, all allocations received shall be available for disbursement in accordance with Section 24-50.5(2)(d).
- (iv) All interest generated from the sources identified in Sections 24-50.5(2)(b)(i), (ii), and (iii) hereinabove, except where monies received have been otherwise designated or restricted.
- (c) The EEL Management Trust Fund shall be kept and maintained in trust by the Board of County Commissioners solely for the purposes set forth herein, in a separate and segregated fund of the County which will not commingle with other County funds until disbursed for an authorized purpose pursuant to this section.
- (d) Disbursements from the EEL Management Trust Fund shall be made by the County Manager only in accordance with this Section 24-50.5(2)(d).
  - (i) No disbursements shall be made from the principal established under Section 24-50.5(2)(b)(i) except by ordinance amending this subsection.
  - (ii) Disbursements shall be made only from those monies defined in Section 24-50.5(2)(b)(ii), (iii), and (iv) hereinabove.
  - (iii) Disbursements shall be made only for the preservation, enhancement, restoration, conservation or maintenance of those environmentally-endangered lands which have been acquired with monies from the EEL Acquisition Trust Fund or which have been approved for

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management pursuant to Section 24-50.7(2). Disbursements shall be made in accordance with (a) project management plan(s) which has/have been approved pursuant to Section 24-50.12.

**Sec. 24-50.6. Land Acquisition Selection Committee.**

- (1) *Land Acquisition Selection Committee established; qualifications of members.*
  - (a) There is hereby established an Advisory Board in accordance with Sections 2-11.36 through 2-11.40 of this Code to be known as the Metropolitan Miami-Dade County Land Acquisition Selection Committee (hereinafter referred to as the LASC).
  - (b) The LASC shall be composed of seven (7) members and one (1) alternate member.
- (2) *Method of appointment; terms of membership.*
  - (a) The County Manager shall recommend to the Board sixteen (16) candidates for the seven (7) regular members' seats on the LASC and the one (1) alternate member's seat. Preference will be given to candidates who have a record of service in environmental or civic affairs in Miami-Dade County and who have been recommended by one or more bona fide environmental, civic, or professional organizations.
  - (b) The Board of County Commissioners shall appoint, from the list of candidates recommended by the County Manager, four (4) members and the alternate to serve for two (2) years and three (3) members to serve for three (3) years. At the end of the two (2) years, the successors to the initial two-year appointments shall be appointed for three (3) years.
- (3) *Quorum; conduct of Committee and rules of procedure; meetings.*
  - (a) A quorum of the Committee shall be five (5) persons.
  - (b) At its first meeting, the Committee shall establish its rules of procedure and shall elect a Chairperson and a Vice-Chairperson. The Chairperson and Vice-Chairperson shall be elected annually thereafter.
  - (c) The alternate member shall enjoy the same privileges and responsibilities as the regular members, except that the alternate member cannot vote unless a regular member is absent.
  - (d) An extraordinary majority of five (5) votes shall be required for determining sites for acquisition as provided for in Sections 24-50.8 through 24-50.11 hereinbelow.
  - (e) The LASC shall hold at least four (4) regular meetings each year.
    - (i) Notwithstanding the provisions of Sections 2-11.38 through 2-11.39 of the Code of Miami-Dade County, any member or alternate member of the LASC who is absent from three (3) meetings in any one (1) year shall forfeit membership and shall not be eligible to be reappointed to

the LASC. In the event a member shall resign or forfeit his membership on the LASC, a quorum of the members in good standing may, by majority vote, elect the alternate to become a permanent voting member.

- (ii) Within thirty (30) days from the date a vacancy occurs, the County Manager shall recommend to the Board of County Commissioners two (2) candidates who meet the qualifications set forth in Section 24-50.6(2)(a) above to fill that vacancy. The Board shall select one of the two (2) candidates to serve the remainder of the term.

(4) *Responsibilities of the Land Acquisition Selection Committee.*

- (a) The primary responsibility of the LASC is to recommend to the Board of County Commissioners a semi-annual acquisition list pursuant to Section 24-50.9 hereinbelow.
- (b) In developing its recommendations, the LASC shall act in accordance with the procedures and requirements set forth in Sections 24-50.7 through 24-50.11 and in furtherance of the purposes of the EEL Program as set forth in Section 24-50.4.
- (c) The LASC may, from time to time, recommend to the Board (or to the County Manager, as appropriate) proposed expenditures from the EEL Trust Funds; additional selection or acquisition policies, procedures, standards, criteria, strategies, schedules, and programs; and other such matters as may be necessary to fulfill the purposes of the EEL Program.
- (d) At its first meeting, or within fourteen (14) days thereafter, the LASC shall recommend action on those Miami-Dade County projects which are ranked on the State of Florida 1991 Conservation and Recreation Land Priority List or which appear on the State of Florida Land Acquisition Trust Fund List with particular regard for the joint acquisition of these projects by the State of Florida and the EEL Program, as set forth in R-1262-90. So that the LASC may act expeditiously, this recommendation is exempted from the procedural requirements provided for in Sections 24-50.10 and 24-50.11, but shall be based upon the considerations set forth in Sections 24-50.7 and 24-50.8.

(5) *Limitation of powers of Committee.* The LASC shall have no power or authority to commit Metropolitan Miami-Dade County to any policies, to incur any financial obligations or to create any liability on the part of the County. The actions and recommendations of the LASC are advisory only and shall not be binding upon the County unless approved or adopted by the Board of County Commissioners.

(6) *Termination of the Committee.* At such time as there are insufficient uncommitted funds in the EEL Acquisition Trust Fund to conclude another acquisition and all acquisition projects have been closed, the LASC shall report to the County Commission that its business is concluded. All remaining EEL Acquisition Trust Fund monies shall then be transferred to the EEL Management Trust Fund and shall be added to the principal thereof as provided for in Section 24-50.5(2)(b)(i).

**Sec. 24-50.7. Property eligible for acquisition and management.**

- (1) Properties eligible to be considered for acquisition and management under the EEL Program shall be only environmental land, ancillary land, and buffer land.
- (2) Any environmental, ancillary, or buffer land not on the acquisition list which is offered for conveyance or donation to Miami-Dade County and is proposed for management by the EEL Program shall be evaluated as provided for in Section 24-50.8 hereinbelow and may only be accepted and approved for management under the EEL Program by resolution of the Board of County Commissioners.

Any land on the Priority A Acquisition List which is owned by a public agency where said agency is willing and able to lease the property to Miami-Dade County for a term not less than thirty (30) years may be accepted and approved for management under the EEL Program by resolution of the Board of County Commissioners. Upon approval for management under the EEL Program, the said public entity must agree to, and execute, a covenant running with the land which provides for continued maintenance of the property as a natural preserve.

**Sec. 24-50.8. Considerations for evaluating lands for acquisition and management; EEL Program Manual.**

- (1) Evaluation of each acquisition proposal shall be based upon the following considerations:
  - (a) The primary considerations for evaluating environmental land shall be:
    - (i) The biological value and viability of the resource;
    - (ii) The vulnerability of the resource to degradation or destruction; and
    - (iii) The requirements (including costs) for managing the resource to maintain its natural attributes, and the feasibility of meeting those management requirements.Ancillary land shall be evaluated in conjunction with the adjacent environmental land.
  - (b) The primary considerations for evaluating buffer land shall be:
    - (i) The biological value and viability of the environmental land;
    - (ii) The vulnerability of the buffer land to development; and
    - (iii) The existing and potential impact on the environmental land if the buffer land were not acquired.
- (2) The Board of County Commissioners hereby approves and makes a part hereof the Criteria for Evaluating EEL Acquisition Proposals attached hereto. The County Manager, pursuant to Section 4.02 of the Code of Miami-Dade County, shall propose to the Board of County Commissioners an Environmentally Endangered Lands Program Manual (hereinafter referred to as the EEL Program Manual) which shall be used as a guide for implementing the provisions of this chapter, and shall include the

criteria for evaluating EEL Acquisition Proposals which are adopted hereby.

**Sec. 24-50.9. Acquisition list.**

The EEL Acquisition List shall consist of the Priority A List and the Priority B List and shall be approved semi-annually by the Board of County Commissioners in accordance with the procedures set forth in Sections 24-50.10 and 24-50.11 hereinbelow.

(1) *Priority A List.*

- (a) The Priority A List shall contain no more than ten (10) projects which shall be selected by the Board of County Commissioners from those acquisition proposals which receive the highest evaluations pursuant to the criteria provided for in Section 24-50.8 and for which acquisition is feasible. No rank order shall be assigned to Priority A projects. The County shall actively pursue the acquisition of Priority A projects.
- (b) A project shall be removed from the Priority A List only after purchase by the County, upon approval of the next succeeding acquisition list as provided hereinbelow or by resolution of the Board of County Commissioners. Projects removed from the Priority A List for any reason except purchase by the County shall be placed on the Priority B List.

- (2) *Priority B. List.* The Priority B list shall contain all acquisition proposals which are deemed worthy of acquisition based upon the evaluation criteria provided in Section 24-50.8, and which may feasibly be acquired, but which have not been assigned to the Priority A List. The County may not actively pursue acquisition of a property on the Priority B List unless the share of the purchase price paid from the EEL Acquisition Trust Fund is no more than fifty (50) percent of the total purchase price of the property or unless the seller donates fifty (50) percent or more of the value of the property as estimated in an appraisal report prepared by an independent fee appraiser and accepted by the County.

**Sec. 24-50.10. Nomination of acquisition proposals.**

- (1) Public applications nominating properties for acquisition may be submitted on an annual basis by any person or organization, including any federal, State, municipal, or regional government agency. Miami-Dade County applications nominating properties for acquisition may be submitted on a semi-annual basis by any agency of Metropolitan Miami-Dade County.
- (2) All nominations shall be made by filing an application provided by the County Manager.
- (3) The first submittal of applications from agencies of Miami-Dade County shall occur no later than December 1, 1991. In 1993, the application deadline shall be no later than June 30. Subsequent submittals shall occur semi-annually thereafter.
- (4) The first public application period shall be opened within ten (10) months from the

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effective date of the ordinance from which this chapter derives. In 1993, the application deadline shall be no later than December 31. Subsequent submittals shall occur annually thereafter.

- (5) A thirty-day period shall be provided each year for the submittal of public applications. Public notice of the application period shall be given at least two (2) weeks before the period opens and a second notice shall be given at least two (2) weeks before the application period closes.
- (6) If the applicant has an ownership interest in any real property covered by an application for proposed acquisition, such interest shall be disclosed in the same manner as required of zoning applicants by Section 33-304(a) of the Code of Miami-Dade County. If the applicant is acting as agent or attorney for a principal, the principal's interest shall be disclosed in the same manner as required of zoning applicants in Section 33-304(a) of the Code of Metropolitan Miami-Dade County. Section 24-50.10(6) shall not apply to governmental applicants.
- (7) If the applicant does not have an ownership interest in the real property covered by an application or if the applicant is a governmental agency, the name and address of the owner as listed in the Property Appraiser's records shall be provided with the application.

**Sec. 24-50.11. Procedure for selection of acquisition proposals for placement on the acquisition list.**

- (1) Upon receipt of a completed property nomination application, the County Manager shall forward the application to designated staff for initial review.
  - (a) Upon completion of initial review, acquisition proposals accepted by the County Manager shall be evaluated by staff based upon the criteria provided in Section 24-50.8. The staff evaluation shall be completed within sixty (60) days of receipt by the County Manager of the completed application.
  - (b) If, upon initial review, staff finds that the biological value of a candidate environmental land is low, that management is not feasible, or that the proposed acquisition would not fulfill the purposes of the EEL Program set forth herein, the County Manager shall be notified immediately and may order that no further evaluation be undertaken. Notwithstanding the County Manager's order, the LASC may, by extraordinary majority of five (5) votes, require a complete evaluation of said property.
- (2) Upon completion of the staff evaluation process, the Environmentally Endangered Lands Project Review Committee, created pursuant to Section 24-50.13 hereinbelow, shall define the preliminary boundaries for each acquisition proposal and shall assist the County Manager in preparing his recommendation on each proposal for the LASC. Within sixty (60) days of the completion of this staff evaluation process, the County Manager shall transmit his recommendation to the LASC along with a map of each site, a description of the biological characteristics of the site, a description of the development potential of the site and adjacent land, an assessment of the management needs and costs, the assessed value, and other information as may be deemed relevant

for each proposal evaluated.

- (3) Within sixty (60) days of receiving the County Manager's transmittal, the LASC shall hold a duly-noticed public hearing to consider the recommendations regarding each site, the applicant's comments, and comments from the public. A courtesy notice shall be provided to the owner(s) of properties which are the subject of the hearing. Failure to notify said owner(s) shall not invalidate these proceedings.
- (4) Within thirty (30) days of its public hearing, the LASC shall meet to adopt its recommended acquisition list for consideration by the Board of County Commissioners as provided for in Section 24-50.9 hereinabove. In developing its recommendation, the LASC shall consider all information received from County staff, the County Manager's recommendation, information that has been submitted in writing through the date of the public hearing, and testimony received at the public hearing. The LASC shall forward the recommended acquisition list to the County Manager for scheduling on the County Commission agenda for consideration and action by the Board.
- (5) Deadlines established in Sections 24-50.11(1) through (4) hereinabove shall be waived in processing applications filed in 1992.

**Sec. 24-50.12. Management plan and use of environmentally endangered lands.**

- (1) No later than thirty (30) days from the date of acquisition, an interim management plan for the property shall be submitted to the Environmentally Endangered Lands Project Review Committee for approval. Upon approval, interim management plans shall be implemented by the County Manager; provided, however, that such interim management plan(s) shall not be implemented for more than two (2) years after acquisition of the property.
- (2) A ten-year management plan shall be prepared for each property acquired by the EEL Program which shall:
  - (a) Identify such management activities as are necessary to preserve, enhance, restore, conserve, maintain, or monitor the resource, as appropriate; and
  - (b) Identify such uses as are consistent with the preservation, enhancement, restoration, conservation, and maintenance of the resource; and
  - (c) Estimate the annual costs of managing the project.
- (3) Annually, the ten-year management plans prepared during the preceding year shall be submitted to the Board of County Commissioners for its approval. Each ten-year management plan shall be updated at least every five (5) years from the last date of Board approval, and may be amended as often as required. Management plan updates and amendments shall be submitted to the Board of County Commissioners for approval.
- (4) All management plans shall be consistent with the purposes set forth in Section 24-50.4 herein. All properties acquired or managed by the EEL Program shall be managed in accordance with the approved management plan for that property.

- (5) No use, infrastructure, or improvement shall be permitted on any property acquired or managed under the EEL Program that is inconsistent with the purposes of the program or that is not provided by an approved management plan for the property.

**Sec. 24-50.13. Responsibilities of the manager.**

The County Manager shall facilitate such activities, designate such staff, and assign such responsibilities as are necessary to fulfill the purposes of this chapter. The manager shall, at a minimum, do the following:

- (1) Designate staff to evaluate acquisition proposals in accordance with the approved criteria and prepare and implement project management plans.
- (2) Make recommendations to the LASC on acquisition proposals.
- (3) Designate an Environmentally Endangered Lands Project Review Committee to assist with the coordination of interdepartmental and interagency activities, to assist in the preparation of recommendations on acquisition proposals, and to approve interim management plans. The Project Review Committee shall be chaired by the County Manager or his designee and shall include at least one (1) representative each from the Department of Environmental Resources Management, the Park and Recreation Department, and the Department of Planning and Zoning.
- (4) Designate a negotiation resource committee to develop negotiation strategies for approved acquisition projects, to monitor negotiations, and to assist in coordinating all activities relating to negotiations, purchase agreements and closings, as needed. The Negotiation Resource Committee shall include at least one (1) representative from the Department of Environmental Resources Management, the Department of Development/Facilities Management, the Park and Recreation Department, and the Property Appraiser's Office. The County Attorney shall also designate (a) representative(s) to serve on the Negotiation Resource Committee.

## **FIGURE NO. 11**

### **MULTIPLE AGENCY LEASE AGREEMENT**

# Multiple Agency Lease Agreement

**Figure No. 11 - Multiple Agency Lease Agreement**

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BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND  
OF THE STATE OF FLORIDA

MULTIPLE AGENCY LEASE AGREEMENT

Lease Agreement No. 3941

THIS LEASE AGREEMENT is made and entered into this 5th day of August, 1993, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "TRUSTEES", and the DADE COUNTY PARK AND RECREATION DEPARTMENT, hereinafter referred to as "LEAD AGENCY", and the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, hereinafter referred to as "COOPERATING AGENCY", hereinafter collectively referred to as "MANAGING AGENCIES", for the lands described in paragraph 2 below, together with the improvements thereon, and subject to the following terms and conditions:

1. DELEGATIONS OF AUTHORITY: The TRUSTEES' responsibilities and obligations herein shall be exercised by the Division of State Lands, Department of Natural Resources.

2. DESCRIPTION OF PREMISES: The property subject to this lease agreement is located in the County of Dade, State of Florida, and is more particularly described in Exhibit A attached hereto and hereinafter referred to as "leased premises".

3. TERM: The term of this lease agreement shall be for a period of fifty (50) years commencing on August 5, 1993 and ending on August 4, 2043, unless sooner terminated pursuant to the provisions of this lease agreement.

4. PURPOSE: The MANAGING AGENCIES shall manage these lands in conformance with the State Environmentally Endangered Lands Plan and the State Lands Management Plan for the conservation and protection of natural and historical resources and for resource based public outdoor recreation which is

**Figure No. 11 - Multiple Agency Lease Agreement**

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compatible with the conservation and protection of these public lands as set forth in subsection 253.023(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 10 of this lease agreement.

5. BEST MANAGEMENT PRACTICES: The MANAGING AGENCIES shall implement applicable Best Management Practices for all activities conducted under this lease agreement in compliance with paragraph 18-2.004(1)(d), Florida Administrative Code, which have been selected, developed, or approved by the TRUSTEES or the MANAGING AGENCIES for the protection and enhancement of the leased premises.

6. EASEMENTS: All easements including, but not limited to, utility easements are expressly prohibited without the prior written approval of the TRUSTEES. Any easement not approved in writing by the TRUSTEES shall be considered void and without legal effect.

7. OTHER AGREEMENTS: This lease agreement shall not be construed as authorization for the MANAGING AGENCIES to lease, sublease, convey or encumber the leased premises or any portion thereof without the prior written approval of the TRUSTEES.

8. LEAD AGENCY RESPONSIBILITIES: The LEAD AGENCY shall coordinate and oversee all activities on the leased premises; initiate appropriate management programs to meet the intent of the goals and objectives stated herein; coordinate preparation and periodic revision of the Management Plan; coordinate and monitor all management activities undertaken by others; and, compile and submit such reports as may be required of the MANAGING AGENCIES. The LEAD AGENCY shall provide permanent staff, as funding is acquired, for management on a day-to-day basis.

9. COOPERATING AGENCY RESPONSIBILITIES: The COOPERATING AGENCY shall, in coordination with the LEAD AGENCY, provide management recommendations and protection for all wildlife, including threatened and endangered species. In addition, the COOPERATING AGENCY will assist in the management of the pineland

## **Figure No. 11 - Multiple Agency Lease Agreement**

preserves by conducting periodic controlled burns of the properties to encourage pineland growth and eliminate the threat of understory hardwoods and exotic species.

10. MANAGEMENT PLAN: The LEAD AGENCY with assistance from the COOPERATING AGENCY shall prepare and submit a Management Plan for the leased premises, in accordance with Section 253.034, Florida Statutes, and Chapters 18-2 and 18-4, Florida Administrative Code, within 12 months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition which established the primary purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by the LEAD AGENCY, COOPERATING AGENCY, Land Management Advisory Committee, and LESSOR at least every five (5) years. The LEAD AGENCY and COOPERATING AGENCY shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

11. QUIET ENJOYMENT AND RIGHT OF USE: The MANAGING AGENCIES shall have the right of ingress and egress, to, from and upon the leased premises for all purposes necessary to their full quiet enjoyment of the rights conveyed herein. The MANAGING AGENCIES shall have the authority and right to enter and occupy the property for all purposes necessary to meet their designated responsibilities, including protection of the leased premises. The MANAGING AGENCIES shall have the authority and shall, through



their agents and employees, take all reasonable measures to provide security against property damage, property degradation, and unauthorized uses or any use thereof not in conformance with this lease agreement.

12. RIGHT OF INSPECTION: The TRUSTEES or their duly authorized agents, shall have the right at any and all times to inspect the leased premises and the works and operations thereon of the MANAGING AGENCIES in any matter pertaining to this lease agreement.

13. BREACH OF COVENANTS TERMS OR CONDITIONS: Should the MANAGING AGENCIES fail to keep or perform any of their responsibilities as designated by the approved Management Plan or otherwise as provided for herein, the TRUSTEES shall notify the specific agency of such non-performance. If correction or justification is not made within (60) sixty days of receipt of written notice, the TRUSTEES may either terminate this lease agreement and recover from the MANAGING AGENCIES all damages the TRUSTEES may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises, or maintain this lease agreement in full force and effect and exercise all rights and remedies herein conferred upon the TRUSTEES.

14. ASSIGNMENT: This lease agreement shall not be assigned in whole or in part without the prior written consent of the TRUSTEES. Any assignment made without the prior written consent of the TRUSTEES shall be void and without legal effect.

15. LIABILITY: The MANAGING AGENCIES shall assist in the investigation of injury or damage claims either for or against the State of Florida or the TRUSTEES pertaining to their respective areas of responsibilities, or arising out of their respective management programs and activities, and shall contact the Division of State Lands regarding whatever legal action they deem appropriate to remedy such damage or claims.

16. UTILITY FEES: The MANAGING AGENCIES shall be responsible for the payment of all charges for the furnishing of gas, electricity, water and other public utilities to the leased

## **Figure No. 11 - Multiple Agency Lease Agreement**

premises and for having all utilities turned off when the leased premises are surrendered.

17. PAYMENT OF TAXES AND ASSESSMENTS: The MANAGING AGENCIES shall assume full responsibility for and shall pay all liabilities that accrue to the leased premises or to the improvements thereon, including any and all drainage and special assessments or taxes of every kind and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against the leased premises.

18. CONDITIONS AND COVENANTS: All of the provisions of this lease agreement shall be deemed covenants running with the land included in the leased premises, and shall be construed to be "conditions" as well as "covenants" as though the words specifically expressing or imparting covenants and conditions were used in each separate provision.

19. TRIPPLICATE ORIGINALS: This lease agreement is executed in triplicate originals each of which shall be considered an original for all purposes.

20. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by the TRUSTEES. The MANAGING AGENCIES shall not do or permit anything to be done which purports to create a lien or encumbrance of any nature against the real property contained in the leased premises including, but not limited to, mortgages or construction liens against the real property contained in the leased premises or against any interest of the TRUSTEES therein.

21. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of the MANAGING AGENCIES. Removable equipment and removable improvements placed on the leased premises by the MANAGING AGENCIES which do not become a permanent part of the leased premises will remain the property of the MANAGING AGENCIES and may be removed by such upon termination of this lease agreement.

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22. MAINTENANCE OF IMPROVEMENTS: The MANAGING AGENCIES shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, maintaining the planned improvements as set forth in the approved Management Plan, meeting all building and safety codes in the location situated and keeping the leased premises free of trash or litter and maintaining any and all existing roads, canals, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this lease agreement; provided, however, that any removal, closure, etc., of the above improvements shall be acceptable when the proposed activity is consistent with the goals of conservation, protection, and enhancement of the natural and historical resources within the leased premises and with the approved Management Plan.

23. NO WAIVER OF BREACH: The failure of the TRUSTEES to insist in any one or more instances upon strict performance of any one or more of the covenants, terms and conditions of this lease agreement shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of the TRUSTEES of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by the TRUSTEES.

24. DAMAGE TO THE PREMISES: The MANAGING AGENCIES agree that they will not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises, any act which may result in damage or depreciation of value to the leased premises, or any part thereof. The MANAGING AGENCIES shall not dispose of any contaminants including, but not limited to, hazardous or toxic substances, chemicals or other agents used or produced in the MANAGING AGENCIES' operations, on the leased premises or on any adjacent state land or in any manner not permitted by law.

**Figure No. 11 - Multiple Agency Lease Agreement**

25. INSURANCE REQUIREMENTS: The MANAGING AGENCIES shall procure and maintain adequate fire and extended risk insurance coverage for any improvements or structures located on the leased premises in amounts not less than the full insurable replacement value of such improvements by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form immediately upon erection of any structures as allowed by paragraph 4 of this lease agreement. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Land Management Services, Division of State Lands, Department of Natural Resources, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399.

26. PUBLIC LANDS ARTHROPOD CONTROL PLAN: The MANAGING AGENCIES shall identify and subsequently designate to the respective arthropod control district or districts all of the environmentally sensitive and biologically highly productive lands contained under this lease agreement, in accordance with Section 388.4111, Florida Statutes and Chapter 10D-54, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands within one year of the effective date of this lease agreement.

27. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this lease agreement in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the tract.

28. SURRENDER OF PREMISES: Upon termination or expiration of this lease agreement, the MANAGING AGENCIES shall surrender the leased premises to the TRUSTEES. In the event no further use of the leased premises or any part thereof is needed, the MANAGING AGENCIES shall give written notification to the Bureau of Land Management Services, Division of State Lands, Department of Natural Resources, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399 at least six (6) months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease agreement number, and an explanation of the release. The release shall only be valid if approved by the TRUSTEES through execution of a release of lease agreement instrument with the same formality as this lease agreement. Upon release of any leased premises or upon termination or expiration of this lease agreement, all improvements, including both physical structures and modifications to the leased premises, shall become the property of the TRUSTEES, unless the TRUSTEES give written notice to the MANAGING AGENCIES to remove any or all such improvements at the expense of the MANAGING AGENCIES. The decision to retain any improvements upon termination of this lease agreement shall be at the TRUSTEES' sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any building on the leased premises shall be turned over to the Division. If the leased premises do not meet all conditions as set forth in paragraphs 17 and 23 herein, the MANAGING AGENCIES shall pay all costs necessary to meet the prescribed conditions.

29. COMPLIANCE WITH LAWS: The MANAGING AGENCIES agree that this lease agreement is contingent upon and is subject to the MANAGING AGENCIES obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

## **Figure No. 11 - Multiple Agency Lease Agreement**

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30. ENTIRE UNDERSTANDING: This lease agreement sets forth the entire understanding between the parties and shall only be amended with the prior written approval of the TRUSTEES.

31. RIGHT OF AUDIT: The MANAGING AGENCIES shall make available to the TRUSTEES all financial and other records relating to this lease agreement and the TRUSTEES shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease agreement expires or is terminated. This lease agreement may be terminated by the TRUSTEES should the MANAGING AGENCIES fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease agreement, pursuant to Chapter 119, Florida Statutes.

32. NON-DISCRIMINATION: The MANAGING AGENCIES shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicaps, or marital status with respect to any activity occurring within the leased premises or upon lands adjacent to and used as an adjunct of the leased premises.

33. GOVERNING LAW: This lease agreement shall be governed by and interpreted according to the laws of the State of Florida.

34. SECTION CAPTIONS: Articles, subsections and other captions contained in this lease agreement are for reference purposes only and are in no way intended to describe, interpret, define or limit the scope, extent or intent of this lease agreement or any provisions thereof.

## **Figure No. 11 - Multiple Agency Lease Agreement**

IN WITNESS WHEREOF, the parties have caused this lease agreement to be executed on the day and year first above written.

Cathy Watkins  
Witness

Judith A. Burt  
Witness

STATE OF FLORIDA  
COUNTY OF LEON

BOARD OF TRUSTEES OF THE INTERNAL  
IMPROVEMENT TRUST FUND OF THE  
STATE OF FLORIDA

By: [Signature] (SEAL)  
DIRECTOR, DIVISION OF STATE  
LANDS, DEPARTMENT OF NATURAL  
RESOURCES

"TRUSTEES"

The foregoing instrument was acknowledged before me this 5<sup>th</sup>  
day of August, 1993, by Percy W. Mallison, Jr.  
as Director, of Division of State Lands, Department  
of Natural Resources



CATHY LYNN WATKINS  
MY COMMISSION # CC 187822 EXPIRES  
March 22, 1996  
BONDED THRU TRUITY FARM INSURANCE, INC.

Cathy Lynn Watkins (SEAL)  
NOTARY PUBLIC  
My Commission Expires:

Approved as to Form and Legality

By: William C. Robinson  
DNR Attorney

(OFFICIAL SEAL)

Shirley E. Moon  
Witness

Emile M. Young  
Witness

ATTEST:

STATE OF FLORIDA  
COUNTY OF DADE

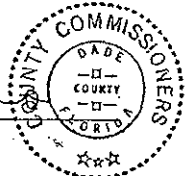
DADE COUNTY, FLORIDA  
BY ITS BOARD OF  
COUNTY COMMISSIONERS

By: Guillermo K. Lury  
for Guillermo G. Avino, P.E. P.L.S.

"LEAD AGENCY"

MARSHALL ADER, CLERK

By: Marshall Ader  
Deputy Clerk



The foregoing instrument was acknowledged before me this 28<sup>th</sup>  
day of April, 1992, by Cynthia W. Curry  
as Asst. County Manager, of Metropolitan Dade County.

Sheila Horowitz  
NOTARY PUBLIC  
My Commission Expires: March 31, 1996  
BONDED THRU GENERAL INS. CO.

STATE OF FLORIDA DEPARTMENT OF  
AGRICULTURE AND CONSUMER SERVICES,  
BOB DRAWFORD, COMMISSIONER

By: Bob Draford (SEAL)  
DIRECTOR, DIVISION OF  
ADMINISTRATION

"COOPERATING AGENCY"

Don Stewart-Brown  
Witness

Harry Zaman  
Witness

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 27<sup>th</sup>  
day of March, 1993, by Mike Gresham  
as Director of Administration, Department of Agriculture and Consumer  
Services.

Lee H. Sadler (SEAL)  
NOTARY PUBLIC

Figure No. 11 - Multiple Agency Lease Agreement

Page 10 of 12  
Lease Agreement No. 3941



LEE H. SADLER  
MY COMMISSION # CC 244401 EXPIRES  
December 8, 1996  
BONDED THRU TRUITY FARM INSURANCE, INC.

1991 MAY 30 PM 2: 06

91R180404

OFF REC 15046:2931

FOLIO #30-4035-000-0610

WARRANTY DEED

Approved by M. M. d. Herin  
By 9/19/91

THIS WARRANTY DEED is made this 22nd day of May, 1991, by and between TRINITY EPISCOPAL PRIVATE SCHOOL, INC., a Florida private school corporation organized under Chapter 623, Florida Statutes, formerly known as Trinity Episcopal School, Inc. ("Grantor"), whose mailing address is 7410 Sunset Drive, Miami, Florida, and BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA ("Grantee"), whose mailing address is c/o Department of Natural Resources, Division of State Lands, 3900 Commonwealth Blvd., Mail Station 115, Tallahassee, Florida 32399.

W I T N E S S E T H:

THAT Grantor, for and in consideration of the sum of Ten and No/100 U.S. Dollars (\$10.00) and other good and valuable considerations to it in hand paid by Grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to Grantee, its successors and assigns forever, the real property and appurtenances thereto (the "Land"), situate, lying and being in the County of Dade, State of Florida and described as follows:

The West 1/2 of the NW 1/4 of the SE 1/4 of the NW 1/4 of Section 35, Township 54 South, Range 40 East, and the East 1/2 of the NW 1/4 of the SE 1/4 of the NW 1/4 of Section 35, Township 54 South, Range 40 East, all lying and being in Dade County, Florida.

TOGETHER with the tenements, hereditaments and appurtenances thereto.

SUBJECT TO:

(1) Restrictive Covenant contained in Modification and Release of Restrictive Covenant filed for record January 10, 1991 in Official Records Book 14854, at Page 747, of the Public Records of Dade County, Florida.

PREPARED BY, RECORDING  
REQUESTED BY, AND WHEN  
RECORDED MAIL TO:  
H. William Walker, Jr., Esq.  
White & Case  
4750 Southeast Financial Center  
200 S. Biscayne Boulevard  
Miami, Florida 33131-2352

Documentary Stamps Collected \$6,775.00  
\$4725.00 SURTAX Doc. Stamps Collected  
Class "C" Intangible Tax Collected \$         
By [Signature] Clerk, Dade County, Fla.  
By [Signature] 5/30/91 DC

NO. 3941  
EXHIBIT A

Figure No. 11 - Multiple Agency Lease Agreement



TO HAVE AND TO HOLD the same in fee simple forever.

AND Grantor hereby fully warrants the title to the Land, and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, Grantor has caused this Warranty Deed to be executed on the day and year first above written:

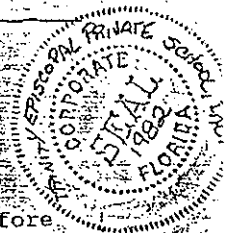
Signed, sealed and delivered in the presence of:

TRINITY EPISCOPAL PRIVATE SCHOOL, INC., a Florida private school corporation organized under Chapter 623, Florida Statutes, formerly known as Trinity Episcopal School, Inc.

*[Signature]*  
*[Signature]*

By: *[Signature]*  
Tina Lane  
President  
(Corporate Seal)

STATE OF FLORIDA )  
COUNTY OF DADE ) SS.

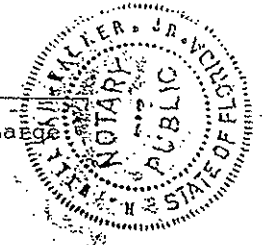


The foregoing instrument was acknowledged before me this 22 day of May, 1991, by Tina Lane, as President of Trinity Episcopal Private School, Inc., a Florida private school corporation organized under Chapter 623, Florida Statutes, formerly known as Trinity Episcopal School, Inc., who acknowledged before me that she executed the foregoing Warranty Deed on behalf of the corporation.

My Commission Expires:

NOTARY PUBLIC STATE OF FLORIDA  
MY COMMISSION EXP. APR. 27, 1992  
BONDED THRU GENERAL INS. CO.

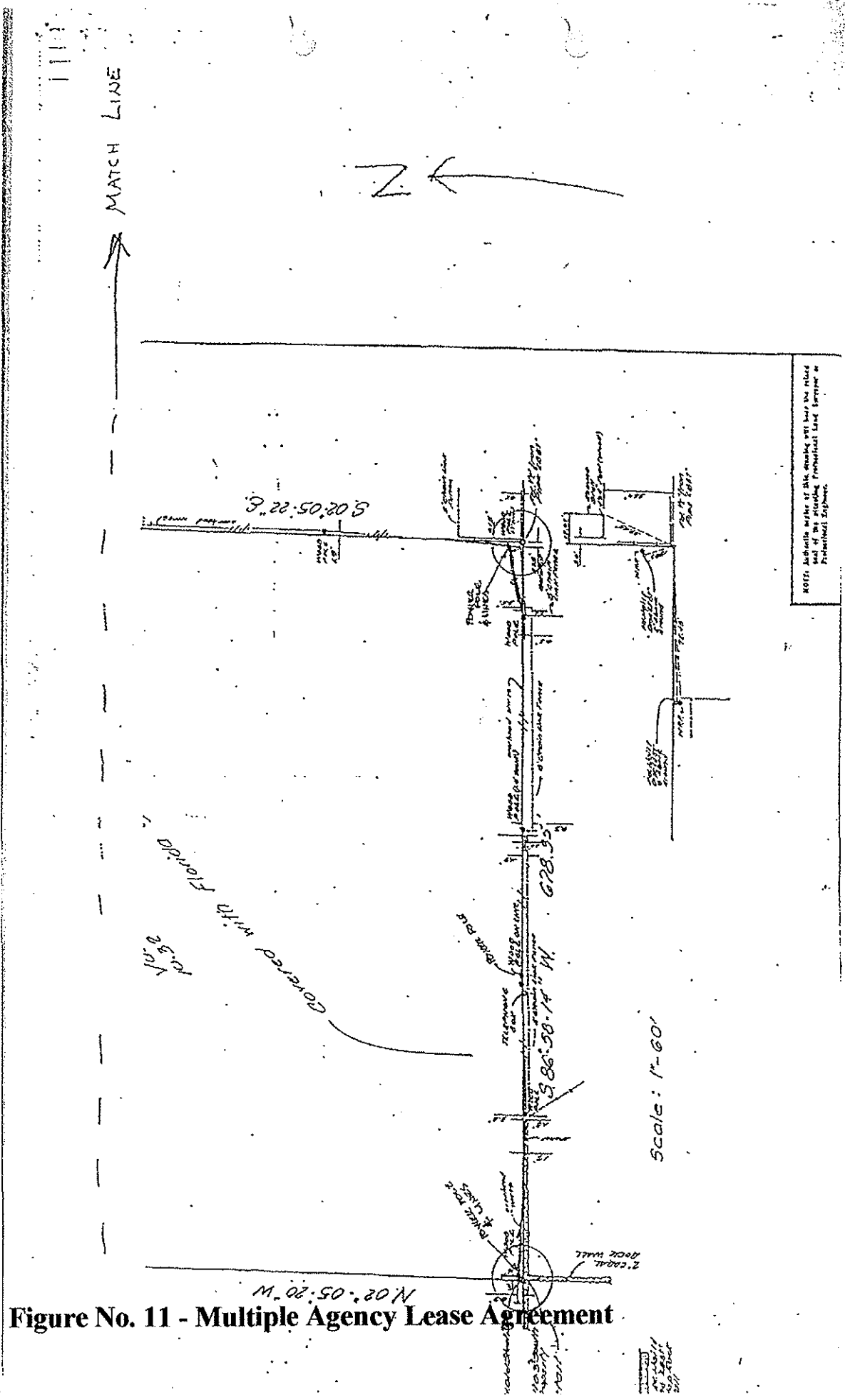
*[Signature]*  
Notary Public  
State of Florida at Large



RECORDED IN OFFICIAL RECORDS BOOK  
OF DADE COUNTY, FLORIDA  
RECORDED TO  
Clerk of Circuit & County  
Courts  
-2-

NO. 3941  
EXHIBIT A





DADE C



## **FIGURE NO. 12**

**FDOT REQUEST FOR STATEMENT OF SIGNIFICANCE LETTER**



## Florida Department of Transportation

JEB BUSH  
GOVERNOR

DENVER J. STUTLER, JR.  
SECRETARY

January 27, 2006

District Planning and Environmental Management Office  
1000 NW 111<sup>th</sup> Avenue, Room 6109  
Miami, FL 33172

Ms. Emilie M. Young, Program Director  
Miami-Dade County Department of Environmental Resources Management  
Environmentally Endangered Lands Program  
33 SW 2<sup>nd</sup> Avenue, P.H. 2  
Miami, FL 33130-1540

Dear Ms. Young:

Re: Statement of Significance -- Owaissa Bauer Addition No. 1 Property  
Krome Avenue South Project Development & Environment Study  
Financial Management Number: 249614-4-21-1  
County: Miami-Dade

The Florida Department of Transportation (FDOT) is conducting a Project Development & Environment (PD&E) Study of the SR 997/SW 177<sup>th</sup> Avenue/Krome Avenue corridor. The 10.07-mile project begins at SW 296<sup>th</sup> Street/Avocado Drive and ends at SW 136<sup>th</sup> Street/Howard Drive. This project is known as the Krome Avenue South Study. Another PD&E Study known as the Krome Avenue North Study, includes the project area which extends from SW 136<sup>th</sup> Street to SR 25/US 27/Okeechobee Road.

The Krome Avenue South project proposes to develop and analyze alternatives, including the no-build, 2-lane, 3-lane, and 4-lane widening alternatives. All alternatives will consider preserving the rural character of the corridor while providing safety and operational improvements. Right-of-way impacts are anticipated for some portions of the project corridor should wider typical sections be implemented.

As part of the PD&E process, the FDOT will be seeking a Section 4(f) Determination of Applicability (DOA) from the Federal Highway Administration (FHWA). Section 4(f) of the U.S. Department of Transportation Act of 1966 pertains to the protection of public resource lands such as parks, recreation areas, or wildlife and waterfowl refuges of national, state, or local significance. It is the understanding of the FDOT that within the Krome Avenue South project corridor, there is one potential Section 4(f) property, the Owaissa Bauer Addition No. 1 property, which falls under your Department's jurisdiction. This property is located on the southeast corner of Krome Avenue and SW 264 Street/Bauer Drive. This property would potentially be directly impacted by any



widening alternatives considered by the FDOT. Based on a meeting between the FDOT and your agency on July 20, 2005, a description of the project and the potential impacts to this property were discussed.

In order for the FDOT to prepare the DOA package for FHWA consideration, the Department must first obtain a statement of significance and documentation of the intended use of the property from the appropriate official(s) with authority over the management and administration of the land. Official(s) having jurisdiction are the official(s) of the agency owning or administering the land. A **written Statement of Significance** from the official(s) having jurisdiction is required for the FHWA to determine if Section 4(f) protection applies to the property.

In order to be considered a Section 4(f) resource, a property must function as or be designated a **significant** public park, wildlife refuge, or recreational area. Significance means that in comparing the availability and function of the park, wildlife refuge, or recreational area with the park, recreational, and/or wildlife refuge objectives of the community or authority, the land in question plays an important role in achieving those objectives.

In summary, the Department would like to request a **Statement of Significance** by your office, regarding the significance and intended use of the Owaissa Bauer Addition No. 1 property, as required under Federal law as a potential Section 4(f) resource (explained above). This Statement should include up-to-date management plans or other official forms of documentation, if available, regarding the land, as well as the following information:

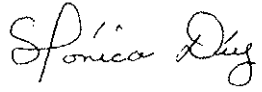
1. Approximate date the property was designated as a public property
2. Size and location of the property
3. Ownership and type of property
4. Function of or available activities on the property
5. Description and location of all existing and planned facilities
6. Access (pedestrian, vehicular, etc.) and usage (approximate number of users)
7. Relationship to other similarly used lands in the vicinity
8. Applicable clauses affecting ownership, such as leases, easements, covenants, restrictions, or conditions including foreclosure
9. Unusual characteristics of the property (flooding problems, terrain conditions, or other features) that either reduce or enhance the value of all or part of the property
10. Statement of Significance.

Please review the above information and attached project location map and provide us with the requested information. In addition, please identify any other functions, values, or other information that is pertinent to the development of the DOA.

Emilie Young  
January 27, 2006  
Page 3

If you should need further information or have any questions, please feel free to contact me or Susanne Travis at (305) 470-5220. Thank you for your coordination efforts on this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Alice N. Bravo". To the right of the signature, the initials "for AMB" are written in a smaller, less legible script.

Alice N. Bravo, P.E.  
District Planning and Environmental Management Engineer

Enclosure

cc: Susanne Travis, FDOT  
Marjorie Bixby, FDOT  
Monica Diez, P.E., FDOT





## **APPENDIX L**

*Federal Highway Administration Section 4(f)*  
*de minimis Finding Concurrence*



**From:** [.Kendall@dot.gov](mailto:.Kendall@dot.gov) [ [:Cathy.Kendall@dot.gov](mailto:.Cathy.Kendall@dot.gov) ]

**Sent:** Wednesday, August 28, 2013 6:01 PM

**To:** Culhane, Barbara J

**Cc:** Croft, Vilma; Varela-Margolles, Aileen; Toolan, Kathleen; [.Cunill@dot.gov](mailto:.Cunill@dot.gov); Jackson, Roy

**Subject:** RE: Krome South Section 4f De Minimis - Request for Concurrence

Barbara,

Thank you for the additional information regarding the Section 4(f) impacts from the various alternatives being evaluated for the Krome Avenue South EIS.

In reviewing the revised information, the SHPO concurrence letter, the previous information provided that includes the 2/7/13 responses to the FHWA De Minimis Questionnaire, our 7/14/13 teleconference to discuss the Section 4(f) impacts, and my field review on 7/24/13 that you organized, the Division has sufficient information at this time to determine that some of the alternatives will have only a de minimis Section 4(f) impact on some of the resources. Specifically, FHWA agrees with your recommendation and has determined that the following build alternatives, as proposed, will have a De Minimis impact under Section 4(f) for the following historic resources:

- Clarence J. Parman Residence (8DA9675) for Alternative 3
- Redland Golf Course (8DA10051) for Alternative 1 to 5
- Seaboard Air Line (CSX) Railroad (8DA10753) for Alternative 1 to 5

Please note this date as the FHWA de minimis finding for the EIS. If you have any questions or clarifications regarding this finding, please let me know.

Cathy Kendall, AICP

Environmental Specialist

FHWA - FL, PR and VI

545 John Knox Road, Suite 200

Tallahassee, FL 32303

(850) 553-2225

[.kendall@dot.gov](mailto:.kendall@dot.gov)

**From:** Culhane, Barbara J [ [Barbara.Culhane@dot.state.fl.us](mailto:Barbara.Culhane@dot.state.fl.us)]  
**Sent:** Monday, July 22, 2013 7:14 PM  
**To:** Kendall, Cathy (FHWA)  
**Cc:** Croft, Vilma; Varela-Margolles, Aileen; Toolan, Kathleen  
**Subject:** Krome South Section 4f De Minimus - Request for Concurrence  
**Importance:** High

Cathy,

Attached please find the information that is being provided in support of a De Minimis finding under Section 4(f) for the Krome South Project. Based on the request from FHWA, a detailed table and supporting text were developed to clearly document findings related to the four Section 4(f) historic resources and the five alternatives.

All resources and build alternative combinations received a Section 106 Determination of No Adverse Effects, with the exception of the Howard Schaff Residence in Alternative 3. As part of the interagency coordination, FHWA made SHPO aware of its intent to make a De Minimis Section 4(f) finding for all properties and build alternatives that SHPO concurred with as having "No Effect" or "No Adverse Effect" under Section 106 of the National Historic Preservation Act.

The information provided notes that there is no Section 4(f) use for the following resource/alternative combinations:

- Clarence J. Parman Residence (8DA9675) for Alternatives 1, 2, 4 and 5
- Howard Schaff Residence (8DA9674) for Alternatives 1, 2, 4 and 5

Based on the SHPO Determination as well as coordination with FHWA, the following build alternatives should qualify for a De Minimis finding for the following historic resources, based on limited right-of-way acquisition:

- Clarence J. Parman Residence (8DA9675) for Alternative 3
- Redland Golf Course (8DA10051) for Alternative 1 to 5
- Seaboard Air Line (CSX) Railroad (8DA10753) for Alternative 1 to 5

For the Howard Schaff Residence, Alternative 3 would require removal of the large mango trees in front of the residence. The FHWA has determined that removal of these trees constitutes an adverse effect under Section 106, and the SHPO has concurred with this finding (Determination of Effects letter dated August 24, 2012). Removal of these trees would require an individual Section 4(f) evaluation.

Following your review of the attached information, FDOT respectfully requests your concurrence with the findings within the attached documents. If you have questions regarding the subject project, please contact me at 305.470.5231 or via e-mail.

Thank you,

-Barbara

Barbara B. Culhane, M.S., A.I.C.P.  
District Cultural Resources Coordinator/  
Environmental Supervisor  
Florida Department of Transportation, District Six  
Adam Leigh Cann Building  
Intermodal Systems Planning Office  
1000 N.W. 111 Avenue  
Miami, Florida 33172  
Office: 305.470.5231



## **APPENDIX M**

### *Water Quality Impact Evaluation*

## WQIE CHECK LIST

Project Name: State Road (SR) 997/Krome Avenue/SW 177<sup>th</sup> Avenue Project Development & Environment (PD&E) Study from SW 296<sup>th</sup> Street to SW 136<sup>th</sup> Street.

County: Miami-Dade

FIN (Financial Number): 249614-4-22-01

Federal Aid Project No. N/A

Short Project Description: The FDOT is evaluating roadway and safety improvement alternatives along a 10-mile segment of SR 997/SW 177<sup>th</sup> Avenue (Krome Avenue) from SW 296<sup>th</sup> Street (Avocado Drive) to SW 136<sup>th</sup> Street (Howard Drive). The project corridor is located in South Miami-Dade County, Florida. Krome Avenue is part of the Florida Intrastate Highway System (FIHS) and the Strategic Intermodal System (SIS). Project objectives include the following: Implement the necessary safety improvements; improve roadway conditions; increase capacity to mitigate existing traffic congestion and to accommodate future traffic demand; improve drainage by providing the necessary stormwater treatment; improve access management; improve bicycle/pedestrian access and continuity; incorporate landscaping and aesthetic treatments; and maintain an adequate level of service for traffic during construction.

### PART 1: DETERMINATION OF WQIE SCOPE

Does project increase impermeable surface area? ☒ Yes ☐ No

Does project alter the drainage system? ☒ Yes ☐ No

If the answer to both questions is no, complete the WQIE by checking Box A in Part 4.

Do environmental regulatory requirements apply? ☒ Yes ☐ No

If no, proceed to Part 4 and check Box B.

## PART 2: PROJECT CHARACTERISTICS

20-year design ADT: 58,000 vehicles/day (Year 2030)

Expected speed limit: 45 miles/hour (posted)

Drainage area: 211.01 acres; 43.03 % Impervious; 56.97 % Pervious

Land Use: 90% Agricultural; 3% Residential; 5% Commercial; 1% Institutional; 1% Conservation.

Potential Large Sources of Pollution (identify): Exxon Krome located at 19900 SW 177 Avenue,  
Farm Store #156 located 24791 SW 177 Avenue, Barreto Yaz Group located at 24800 SW 177  
Avenue, Krome Station located at 27200 SW 177 Avenue (see CSER for details).

Groundwater Receptor (Name of Aquifer or N/A): Surficial Aquifer System

Designated Well Head Protection Area: ☐ Yes ☒ No Name: N/A

Sole Source Aquifer: ☒ Yes ☐ No Name: Biscayne Aquifer

Groundwater Recharge Mechanism: Local Precipitation Only

(Notify District Drainage Engineer if Karst Conditions Expected)

Surface Water Receptor (Name or N/A): C-102 and C-103

Classification: ☐ I ☐ II ☒ III ☐ IV ☐ V

Special Designation (check all that apply):

- |   |                                    |   |  |
|---|------------------------------------|---|--|
| <input type="checkbox"/> ONRW                   | <input type="checkbox"/> OFW       | <input type="checkbox"/> Aquatic Preserve | <input type="checkbox"/> Wild & Scenic River |
| <input type="checkbox"/> Special Water          | <input type="checkbox"/> SWIM Area | <input type="checkbox"/> Local Comp Plan  | <input type="checkbox"/> MS4 Area            |
| <input type="checkbox"/> Other (specify): _____ |                                    |   |  |

Conceptual Storm Water Conveyances & System (check all that apply):

- |  |  |                                   |  |   |
|--|--|-----------------------------------|--|---|
| <input checked="" type="checkbox"/> Swales         | <input type="checkbox"/> Curb and Gutter | <input type="checkbox"/> Scuppers | <input checked="" type="checkbox"/> Pipe | <input checked="" type="checkbox"/> French Drains |
| <input type="checkbox"/> Retention/Detention Ponds |  | <input type="checkbox"/> Other:   |  |   |

**PART 3: ENVIRONMENTAL REGULATORY REQUIREMENTS**

Regulatory Agency (check all that apply)	Reference Citation for Regulatory Criteria	Most Stringent Criteria (check all that apply)
USEPA <input type="checkbox"/>	N/A	<input type="checkbox"/>
FDEP <input checked="" type="checkbox"/>	Section 402 of the Clean Water Act (NPDES Program)	<input checked="" type="checkbox"/>
SFWMD <input checked="" type="checkbox"/>	Chapter 40E-40, F.A.C. and ERP Basis of Review	<input checked="" type="checkbox"/>
USACE <input checked="" type="checkbox"/>	Section 404 of the Clean Water Act	<input checked="" type="checkbox"/>

Proceed to Part 4 and Check Box C.

**PART 4: WQIE DOCUMENTATION**

- A. ☐ Water quality is not an issue
- B. ☐ No regulatory requirements apply to water quality issues.  
(Document by checking the "none" box for water quality in Section 6.C.3 of the  
Environmental Determination Form or Section 5.C.3 of the SEIR.)
- C. ☒ Regulatory requirements apply to water quality issues. Water quality issues will be  
mitigated through compliance with the quantity design requirements placed by the  
South Florida Water Management District, an authorized regulatory agency.

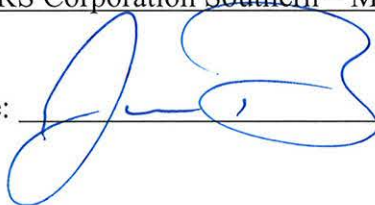
Evaluator Name (print):

Julio Boucle, P.E.

Office:

URS Corporation Southern – Miami, Florida

Signature:



Date:

6-20-07



## **APPENDIX N**

*United States Environmental Protection Agency*  
*Advance Notification Response –*  
*Sole Source Aquifer Letter*



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4

ATLANTA FEDERAL CENTER

61 FORSYTH STREET

ATLANTA, GEORGIA 30303-8960

June 30, 2004

Ms. Alice N. Bravo, P.E.  
District Environmental Management Engineer  
Florida Department of Transportation, Room 6103  
1000 Northwest 11<sup>th</sup> Avenue  
Miami, FL 33172-5800

**Subj:** Sole Source Aquifer Review Determination for SR 997/Krome Ave./ SW 177 Ave.  
(South) from SW 296<sup>th</sup> SW 136<sup>th</sup> Street

Dear Ms. Bravo:

The U.S. Environmental Protection Agency (EPA), Region 4 has received your request to review the above-referenced proposed project and have reviewed it pursuant to Section 1424(e) of the Safe Drinking Water Act. Regulatory groups within the EPA Region 4 Office responsible for administering other programs may, at their own discretion and under separate cover, provide additional comments.

The above referenced project has been determined to lie within the actual or streamflow and recharge source-zone boundaries of the Biscayne Sole Source Aquifer (SSA) system. This system has been designated by EPA as a Sole Source since *it is the sole or principal water source for the area* which, if contaminated, would create a significant hazard to public health. For this reason, EPA, Region 4 has reviewed your projects for impacts to the sole source aquifer system.

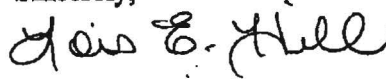
After review of the information provided for this project, it is my understanding that all necessary precautions, permits, best management practices (BMPs), zoning and city ordinances pertaining to construction activities will be followed to prevent adverse impacts to the aquifer. Please contact our office when a determination has been made as to whether the projects are located near any above or below ground chemical storage tanks, sanitary landfills, or waste dumps. Also indicate if any previous groundwater contamination has occurred from the above listed property. For those projects which are located in wetlands or coastal and flood zones, you will need to contact EPA's Wetlands Section at the above address to ensure that all BMPs are followed for their program. We also request that the FL Department of Environmental Quality be contacted to determine if a Wellhead or Source Water Protection Plan exists for the listed construction/rehabilitation areas. If a plan does exist, please request a copy to ensure that the projects are in line with the groundwater protection activities within the protection area.

After reviewing the information provided in the documents submitted to our office, it is my conclusion that if all mentioned precautions are adhered to that the project should not have a significant negative impact to the aquifer. Please contact our office if any project changes are made.

I have enclosed an informational sheet detailing data that should be submitted as part of the request package.

Thank you for your concern with the environmental impacts of the project on the aquifer. If you have any questions or concerns in regards to this or other matters, please do not hesitate to contact me by telephone at 404/562-9472 or by email at [hill.lois@epa.gov](mailto:hill.lois@epa.gov).

Sincerely,



Lois E. Hill, Environmental Engineer  
Region 4 Sole Source Aquifer Coordinator  
Ground Water/Drinking Water Branch

Enclosure

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## **MINIMAL ELEMENTS OF A SOLE SOURCE AQUIFER REVIEW REQUEST**

**SPONSORING AGENCY:** The federal agency providing the funding for the project.

**CONTACT:** Person to call regarding the project.

**NAME OF PROJECT:** Title of the project.

**ADDRESS:** Address of the contact person or location of the project.

**COUNTY:** County where the project will take place.

**TOTAL FUNDING AMOUNT:**

**FEDERAL SHARE:** The Federal Share amount.

**OTHER:** Other state/Federal agencies share.

**PROJECT NEED/PURPOSE/SCOPE:** The need, potential benefits and adverse effects of the proposed project should be stated clearly. Project impacts and impact mitigation are evaluated in the context of project need.

**WATER QUALITY BEST MANAGEMENT PRACTICES (BMPs):** Should be used to reduce erosion during construction. Typical BMPs include the use of stacked hay bales, silt fences, mulching and reseeded, and appropriate buffer zone along water bodies. The document should include an erosion control plan or reference the State erosion control regulations and a commitment to compliance. Compliance should include both BMP application and maintenance.

---

The document should discuss any proposed crossings of water bodies. In general, crossings should be minimized. Unavoidable crossings should be strategically placed to reduce harm to the aquifer.

**CUMULATIVE IMPACTS:** The SSA document should estimate cumulative impacts associated with the proposed project. Cumulative impacts include the additive effects of a given parameter for all contributing projects in the area, as well as the cumulative impact of all parameters for all projects in the area. The document should define what cumulative impacts would result from implementation of the proposed project. Existing or future projects (federal and non-federal projects) with attendant pollutants should also be considered.

Case exist where the proposed project is the primary or a significant contributor to the cumulative impacts of an area; however, there could also be cases where the proposed project has minimal impacts but the cumulative impacts would nevertheless be great due to the existing impacts in the area. As such, even EAs with minimal impacts should at least address cumulative impacts for the project area.



## **APPENDIX O**

*Florida Department of Environmental Protection*  
*Advance Notification Response –*  
*Coastal Zone Consistency Letter*





Jeb Bush  
Governor

# Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Colleen M. Castille  
Secretary

Krome D  
23a

May 4, 2004

Ms. Alice N. Bravo, P.E.  
District Environmental Management Engineer  
Florida Department of Transportation  
1000 N.W. 111<sup>th</sup> Avenue, Room 6103  
Miami, Florida 33172

RE: Department of Transportation, Advance Notification, SR 977/Krome Avenue/SW 177<sup>th</sup>  
Avenue South, From SW 296<sup>th</sup> Street/Avocado Drive to SW 136<sup>th</sup> Street, Miami-Dade  
County, Florida

SAI #: FL200403085571C

Dear Ms. Bravo:

The Florida State Clearinghouse, pursuant to Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated the review of the above-referenced advance notification.

The Department of Environmental Protection (DEP) recommends that the entire corridor be evaluated for potential impacts to wetlands, and specific project components of the Comprehensive Everglades Restoration Plan (CERP). This portion of the Krome Avenue project, when coupled with the northern portion of the project, has the potential to impact both wetlands and areas that are in agricultural production. DEP also recommends precautions for managing potentially contaminated areas within the project area. Please see the enclosed memorandum from DEP for additional concerns and recommendations.

The South Florida Water Management District (SFWMD) indicates that the proposed project "build" alternatives will require an environmental resource permit. The SFWMD will require documentation of efforts that were taken to avoid or minimize wetland impacts and mitigation will be required for unavoidable impacts. The SFWMD also discusses potential impacts to CERP projects that are underway within the District and recommends additional coordination between the responsible agencies. Please see the enclosed comments from the SFWMD for additional concerns and recommendations.

The South Florida Regional Planning Council (SFRPC) indicates that the project should be consistent with the goals, policies and land development regulations of the local governments

"More Protection, Less Process"

Printed on recycled paper.

Krome - S.A.N. - DEP - 5/4/04 - P.17

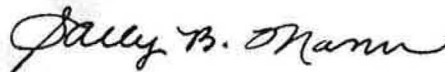
Ms. Alice N. Bravo, P.E.  
May 4, 2004  
Page 2

having jurisdiction within the project area. It is recommended that the applicant coordinate with all local governments that will be affected by the project. The SFRPC has summarized the goals and policies from its Strategic Regional Policy Plan that apply to this project. Please see the attached comments from the SFRPC and specific recommendations for complying with regulatory requirements.

Based on the information contained in the advance notification and the enclosed state agency comments, the state has determined that, at this stage, the allocation of federal funds for the above-referenced project is consistent with the Florida Coastal Management Program (FCMP). However, the applicant is required to address the concerns identified by the reviewing agencies. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

Thank you for the opportunity to review the proposed project. If you have any questions regarding this letter, please contact Mr. Bob Hall at 850/245-2163.

Sincerely,



Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/rwh

Enclosures

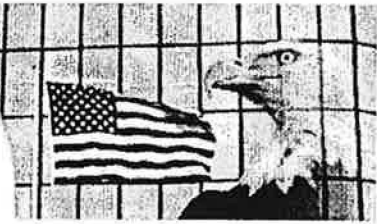
cc: Mr. John Outland, DEP, MS 45  
Mr. Tim Gray, DEP, West Palm Beach  
Mr. Jim Golden, SFWMD  
Ms. Christina Miskis, SFRPC



# Florida

## Department of Environmental Protection

*"More Protection. Less Process"*



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<b>Project Information</b>	
<b>Project:</b>	FL200403085571C
<b>Comments Due:</b>	April 04, 2004
<b>Letter Due:</b>	May 04, 2004
<b>Description:</b>	DEPARTMENT OF TRANSPORTATION - ADVANCE NOTIFICATION - SR 977/KROME AVENUE/SW 177 AVENUE SOUTH, FROM SW 296TH STREET/AVOCADO DRIVE TO SW 136TH STREET - FINANCIAL MANAGEMENT NO.: 249614-4-21-01 - MIAMI-DADE COUNTY, FLORIDA.
<b>Keywords:</b>	DOT - SR 977/KROME AVENUE/SW 177 AVENUE (SOUTH) - MIAMI-DADE CO.
<b>CFDA #:</b>	20.205
<b>Agency Comments:</b>	
<b>SOUTH FL RPC - SOUTH FLORIDA REGIONAL PLANNING COUNCIL</b>	
Council staff notes that the project must be consistent with the goals and policies of the Miami-Dade County comprehensive development master plan and its corresponding land development regulations, and recommends that impacts to natural systems be minimized to the greatest extent feasible. The proposed road improvement program is generally consistent with the goals and policies of the Strategic Regional Policy Plan for South Florida.	
<b>MIAMI-DADE -</b>	
<b>ENVIRONMENTAL POLICY UNIT - OFFICE OF POLICY AND BUDGET, ENVIRONMENTAL POLICY UNIT</b>	
No Comment	
<b>COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS</b>	
Released Without Comment	
<b>FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION</b>	
No Comment	
<b>STATE - FLORIDA DEPARTMENT OF STATE</b>	
No Comment	
<b>ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION</b>	
DEP recommends that the entire Krome Avenue corridor be evaluated to determine total impacts to wetlands and agricultural areas as well as CERP project components. Memo provided.	
<b>SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b>	
Letter faxed/mailed on 4/9/04	

For more information please contact the Clearinghouse Office at:


3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

Visit the [Clearinghouse Home Page](#) to query other projects.

## Memorandum

## Florida Department of Environmental Protection

**TO:** Florida State Clearinghouse

**FROM:** Robert W. Hall, Environmental Specialist   
Office of Intergovernmental Programs

**DATE:** May 5, 2004

**PROJECT:** Department of Transportation, Advance Notification, SR 977/Krome Avenue/SW 177 Avenue South, From SW 296<sup>th</sup> Street/Avocado Drive to SW 136<sup>th</sup> Street, Miami-Dade County, Florida

**SAI #:** FL200403085571C

---

The Department has reviewed the above-referenced project and offers the following comments.

### General

The advanced notification addresses the Krome Avenue South segment of larger Krome Avenue widening project. According to the notification this segment crosses rural agricultural and low density residential land uses. Future environmental documentation for this project should assess the direct and indirect impacts to agricultural lands as it can be expected that such roadway widening will induce the conversion of agricultural lands to higher intensity uses. Drainage and stormwater treatment will also be an issue in this segment as it crosses flood prone areas.

The north segment of the project, from SR 94 to U.S. 27, traverses remnant Everglades marsh associated with Northeast Shark River Slough and Water Conservation Area 3B. Wetlands to the east are also being acquired as part of the Comprehensive Everglades Restoration Plan/East Coast Buffer/Water Preserve Area.

The northern segment should be evaluated for a design that improves hydrological connections to adjacent wetlands and to avoid wetland filling. Options to evaluate should include elevation or larger culverts and wildlife underpasses to enhance sheet flow and wildlife movement. In addition, treatment of stormwater runoff will be a concern given the adjacent wetlands and proximity to WCA 3B and Everglades National Park.

The Department recommends that future environmental assessments evaluate the total project impact at logical termini rather than by segmented analysis.

### Waste Cleanup Concerns:

1. Section 3 J of the report states that a Contamination Screening Evaluation similar to Phase I and Phase II Audits would be performed along the project rights-of-way in considering the



**Memorandum**

**SAI # FL200403085571C**

**Page 2 of 3**

proximity to potential petroleum and hazardous material handling facilities. The document states that there are at least 40 known (and possibly more) sources of groundwater and soil contamination within the corridor right-of-way. If the screening evaluations utilize reasonably current file data, or establish new data points to identify potential soil and groundwater contamination areas, the data will be acceptable for use in the Screening Evaluations. Copies of the screening evaluations should be supplied to the Department's Southeast District office, Waste Cleanup Section.

2. The Contamination Screening Evaluations should outline specific procedures that would be followed by the applicant in the event that drums, wastes, tanks or potentially contaminated soils are encountered during construction. Special attention should be made in the screening evaluation to agricultural lands where pesticide mixing, loading and application areas may have an affect on the proposed project, including storm water retention and treatment areas.
3. In the event contamination is detected during construction, the Department needs to be notified. FDOT may need to address the problem through additional assessment and remediation activities. The applicant should note that Section 3.J. outlines the FDOT requirements for "Special Provisions for Unidentified Areas of Contamination" in the project's construction contract documents. Specific actions would be required by the contractor in the event that any hazardous material or suspected contamination issues arise.
4. Groundwater monitoring wells and water production wells are likely to be present at or near project corridors. Pursuant to Chapter 62-532, Florida Administrative Code, arrangements need to be made to properly abandon or replace any wells that may be destroyed or damaged during construction.
5. Depending on the findings of the Contamination Screening Evaluations and the proximity to known contaminated sites, projects involving "dewatering" should be discouraged, since there is a potential to spread contamination to previously uncontaminated areas and affect contamination receptors, site workers and the public. Dewatering projects would require permits from the South Florida Water Management District, Water Use Section and coordination with the Miami-Dade Department of Environmental Resources Management.
6. Any land clearing or construction debris must be characterized for proper disposal. Potentially hazardous materials must be properly managed in accordance with Chapter 62-730, F.A.C. In addition, any solid wastes or other non-hazardous debris must be managed in accordance with Chapter 62-701, F.A.C.
7. Staging areas, with controlled access, should be planned in order to safely store raw material paints, adhesives, fuels, solvents, lubricating oils, etc. that will be used during construction. All containers need to be properly labeled. The project managers should consider developing written

**Memorandum**

**SAI # FL200403085571C**

**Page 3 of 3**

construction Contingency Plans in the event of a natural disaster, spill, fire or environmental release of hazardous materials stored or handled for the project construction.



## SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574  
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • [www.sfwmd.gov](http://www.sfwmd.gov)

GOV 04-40

April 9, 2004

Ms. Alice N. Bravo, P.E.  
District Environmental Management Engineer  
Florida Department of Transportation  
1000 N.W. 111<sup>th</sup> Avenue, Room 6103  
Miami, FL 33172

**Subject: Krome Avenue From S.W. 296<sup>th</sup> Street to S.W. 136<sup>th</sup> Street  
Advance Notification [FM#: 249614-4-21-01] [SAI#: FL200403085571C]**

Dear Ms. Bravo:

In response to your request, South Florida Water Management District (SFWMD) staff has reviewed the Advance Notification for the above subject project which is located in Florida Department of Transportation (FDOT) District 6. According to the Fact Sheet, the purpose of the proposed project is to develop and analyze various alternatives, including a no build alternative, a Transportation System Management (TSM) alternative, and several build alternatives consisting of two, three and four-lane typical sections. All alternatives will look at preserving the rural character of the corridor while providing safety and operational enhancements.

The following comments should be considered in the design, construction, and permitting of this project:

### General Comments

- (1) The proposed roadway improvements will require an Environmental Resource Permit (ERP) for any "build" alternative, pursuant to Rules 40E-1, 40E-4, 40E-40, 40E-41, and 40E-400, F.A.C.
- (2) The proposed roadway improvements must meet the SFWMD's water quality and water quantity criteria as specified in the Basis of Review for Environmental Resource Permit Applications.
- (3) To the extent possible, any wetland impacts due to location, design, and construction techniques should be minimized. Please note that information documenting that any proposed wetland impacts are unavoidable will be required at the time of permit application, as well as information on the alternatives considered to reduce the proposed impacts. Mitigation will be required for any unavoidable wetland impacts.

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APR 14 2004

#### GOVERNING BOARD

Nicolás J. Gutiérrez, Jr., Esq., *Chair*  
Pamela Brooks-Thomas, *Vice-Chair*  
Irela M. Bagué

Michael Collins  
Hugh M. English  
Lennart E. Lindahl, P.E.

Kevin McCarty  
Harkley R. Thornton  
Trudi K. Williams, P.E.

#### EXECUTIVE OFFICE

Henry Dean, *Executive Director*

- (4) A Water Use Permit may be required for any dewatering activities associated with the proposed roadway improvements, pursuant to Rule 40E-2, F.A.C. Please contact the SFWMD's Water Use Division at (561) 682-6926, prior to the initiation of any dewatering activities and subsequent to the completion of the Contamination Screening Evaluation Report, to schedule a pre-application conference to discuss the details of the proposed dewatering activities.

Please note that, if the proposed roadway improvements include dewatering activities within contamination areas or if the dewatering activities have the potential to result in the induced movement of the contamination plume, a pre-application meeting involving SFWMD Water Use staff and the appropriate staff from the Florida Department of Environmental Protection should be scheduled to discuss management of dewatering effluent, including the design of appropriate containment/treatment methods.

#### Project-Specific Comments

- (5) Any proposed work within the SFWMD's C-102 or C-103 Canal rights-of-way will require a Right Of Way Occupancy Permit. If the proposed roadway project involves any modifications to the existing bridge structures, a modification to Right Of Way Occupancy Permits No. 9120 (C-102) and 3179 (C-103) will be required. Please note that any proposed bridge work must meet the SFWMD's bridge crossing criteria, as contained in the Criteria Manual for Use of Works of the District, Permit Information Manual Volume V.
- (6) For the last several years, SFWMD and FDOT District 6 staff have met periodically to review the status of CERP (Comprehensive Everglades Restoration Plan) and other SFWMD projects in Miami-Dade County relative to current and potential FDOT District 6 projects in the vicinity of the CERP/SFWMD projects and to identify specific areas where future coordination is needed. During our discussions, we have identified specific areas where CERP/SFWMD project design assumptions should be factored into the FDOT planning and design evaluation processes, discussed opportunities for future shared and/or complimentary uses, and identified those areas where we feel it most important to preserve as much flexibility as possible due to future project plan formulation and design processes.

This segment of Krome Avenue is located south of the S-338 structure (which is located at the intersection of the SFWMD's C-1W Canal and Krome Avenue) and approximately five miles east of the C-111 and L-31W Projects that are under construction and/or planned as part of the Modified Water Deliveries projects. However, the southernmost portion of this segment of Krome Avenue falls within

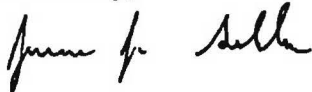
Ms. Alice N. Bravo, P.E.  
April 9, 2004  
Page 3

the northern portion of the general project boundaries of the C-111 Spreader Canal project.

In previous discussions with FDOT staff, the SFWMD staff noted that the final location of the C-111 Spreader Canal and Stormwater Treatment Area may require consideration of potential upstream flood control impacts on Homestead/Florida City during the design process for any proposed road improvements in this area. At this time, it is not known if this is a factor that will need to be considered in the design process, but it is an issue that will require future coordination during our respective planning and design processes.

Should any of the above require additional clarification, please give me a call at (561) 682-6862.

Sincerely,

A handwritten signature in black ink, appearing to read "James J. Golden".

James J. Golden, AICP  
Senior Planner  
Environmental Resource Regulation

/jjg

c: Lauren Milligan, DEP

South  
Florida  
Regional  
Planning  
Council



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April 6, 2004

Ms. Lauren Milligan  
Clearinghouse Coordinator  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Boulevard, Mail Station 47  
Tallahassee, FL 32399-3000

RE: SFRPC #04-0323, SAI #FL 200403085571C, Request for comments on the Advance Notification for SR977/Krome Avenues/SW 177 Avenue South, from SW 296<sup>th</sup> Street/Avocado Drive to SW 136<sup>th</sup> Street, Florida Department of Transportation, Miami-Dade.

Dear Ms. Milligan:

We have reviewed the above-referenced Advanced Notification and have the following comments:

- The project must be consistent with the goals and policies of the Miami-Dade County comprehensive development master plan and its corresponding land development regulations. It is important for the permit grantor to coordinate its permit with the local government granting permits for development at the subject site.
- Staff recommends that 1) impacts to the natural systems be minimized to the greatest extent feasible and 2) the permit grantor determine the extent of sensitive wildlife, marine life, and vegetative communities in the vicinity of the project and require protection and or mitigation of disturbed habitat. This will assist in reducing the cumulative impacts to native plants and animals, wetlands and deep-water habitat and fisheries that the goals and policies of the *Strategic Regional Policy Plan for South Florida* (SRPP) seek to protect.
- The project is located over the Biscayne Aquifer, natural resource of regional significance designated in the SRPP. The goals and policies of the SRPP, in particular those indicated below, should be observed when making decisions regarding this project:

#### Strategic Regional Goal

3.2 Develop a more efficient and sustainable allocation of the water resources of the region.

#### Regional Policies

3.2.5 Ensure that the recharge potential of the property is not reduced as a result of a proposed modification in the existing uses by incorporation of open space, pervious areas, and impervious areas in ratios which are based upon analysis of on-site recharge needs.

- 3.2.6 When reviewing proposed projects and through the implementation of the SRPP, discourage water management and proposed development projects that alter the natural wet and dry cycles of Natural Resources of Regional Significance or suitable adjacent buffer areas or cause functional disruption of wetlands or aquifer recharge areas.
- 3.2.9 Require all inappropriate inputs into Natural Resources of Regional Significance to be eliminated through such means as; redirection of offending outfalls, suitable treatment improvements or retrofitting options.
- 3.2.10 The discharge of freshwater to Natural Resources of Regional Significance and suitable adjacent natural buffer areas shall be designed to imitate the natural discharges in quality and quantity as well as in spatial and temporal distribution.
- 3.2.11 Existing stormwater outfalls that do not meet or improve upon existing water quality or quantity criteria or standard, or cause negative impacts to Natural Resources of Regional Significance or suitable adjacent natural buffer areas shall be modified to meet or exceed the existing water quality or quantity criteria or standard. The modification shall be the responsibility of the outfall operator, permittee or applicant.

#### **Strategic Regional Goal**

- 3.4 Improve the protection of upland habitat areas and maximize the interrelationships between the wetland and upland components of the natural system.

#### **Regional Policies**

- 3.4.8 Remove invasive exotics from all Natural Resources of Regional Significance and associated buffer areas. Require the continued regular and periodic maintenance of areas that have had invasive exotics removed.
- 3.4.9 Required maintenance shall insure that re-establishment of the invasive exotic does not occur.

#### **In addition;**

- Council staff finds that the proposed road improvement program is generally consistent with the goals and policies of the *Strategic Regional Policy Plan for South Florida (SRPP)* in that it addresses the importance of improving transportation infrastructure to support the region's economic development. In doing so, the proposed project will further our goals for a more livable, sustainable, and competitive region.
- Council staff generally agrees that the proposed project is particularly compatible with the *Strategic Regional Plan for South Florida's (SRPP)* goals and policies listed below:

### **Strategic Regional Goal**

- 4.1 Achieve a competitive and diversified regional economy, including lower unemployment rate and higher per capita income than the state and national average for Dade, Broward and Monroe Counties through the achievement of cutting edge human resources, economic development infrastructure and other resources to ensure a sustainable regional community.

### **Regional Policies**

- 4.1.10 Coordinate and develop a totally integrated, multi-modal regional transportation system whereby heavy and light rail transit, people movers, Tri-Rail Commuter Service trolleys, express and local bus service and other transit related travel play a more active role in the movement of people. When modernizing or creating new transportation system utilize land use/transportation strategies to reduce congestion and allow for sustainable growth in the Region.
- 4.1.13 Ensure that the conditions of transportation affecting trade opportunities in the region with respect to land, air, ground and shipping are addressed.
- 4.1.28 Encourage the investment in the land and infrastructure needed for sustainable economic growth. Investments should include land for highway and mass transit corridors, stations and public-private joint venture development opportunities.

### **Strategic Regional Goal**

- 5.1 To achieve mutually supportive transportation planning and land use planning that promotes both mobility and accessibility in order to foster economic development, preserve natural systems, improve air quality, increase access to affordable housing and promote safety.

### **Regional Policies**

- 5.1.2 Use multimodal transportation corridors and public transit service to link major regional activity centers.
- 5.1.9 Consider regionally significant roadways and implement mitigation strategies during the Development of Regional Impact (DRI) review to meet the requirements of Transportation Uniform Standard Rule 9J-2.045, F.A.C.
- 5.1.12 Support the provision of a dedicated source of funding for public transit.
- 5.1.13 Expand use of mass transit, commuter rail, and alternative transportation modes, and increase their role as major components in the overall regional transportation system.
- 5.1.24 Improve regional air quality and reduce negative impacts to other natural resources by connecting development with multimodal transportation systems.



Ms. Lauren Milligan  
April 6, 2004  
Page 4

5.1.27 Establish a coordinated system for the transportation disadvantaged, including the elderly, in all counties of the region and assure coordination of service delivery between the transportation disadvantaged and public transit system.

Thank you for the opportunity to comment. Please do not hesitate to call should you have any questions or comments.

Sincerely,

  
Carlos Andres Gonzalez  
Senior Planner

CAG/kal

Cc: Alice N. Bravo, P.E., Environmental Manager, FDOT-District 4

COUNTY: MIAMI-  
DADE

DATE: 3/5/2004

COMMENTS DUE DATE: 4/4/2004

CLEARANCE DUE DATE: 5/4/2004

SAI#: FL200403085571C

**MESSAGE:**

REFERENCE SAI # FL199908270695C

<b>STATE AGENCIES</b>	<b>WATER MNGMNT. DISTRICTS</b>	<b>OPB POLICY UNIT</b>	<b>RPCS &amp; LOC GOVS</b>
COMMUNITY AFFAIRS			
ENVIRONMENTAL PROTECTION	SOUTH FLORIDA WMD	ENVIRONMENTAL POLICY UNIT	
X FISH and WILDLIFE COMMISSION			
STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized

as one of the following:

☒ Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.

Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.

Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

**Project Description:**

DEPARTMENT OF TRANSPORTATION -  
ADVANCE NOTIFICATION - SR 977/KROME  
AVENUE/SW 177 AVENUE SOUTH, FROM SW  
296TH STREET/AVOCADO DRIVE TO SW  
136TH STREET - FINANCIAL MANAGEMENT  
NO.: 249614-4-21-01 - MIAMI-DADE COUNTY,  
FLORIDA.

**To: Florida State Clearinghouse**

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

**EO. 12372/NEPA Federal Consistency**

☒ No Comment  
☐ Comment Attached  
☐ Not Applicable  
☒ No Comment/Consistent  
☐ Consistent/Comments Attached  
☐ Inconsistent/Comments Attached  
☐ Not Applicable

**From:**

Division/Bureau: FWC-OES

Reviewer: Stephen R. Lau

Date: 3-30-04

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MAR 09 2004

APR 01 2004

OIP/OLGA

OFFICE OF  
ENVIRONMENTAL SERVICES

REC'D MAR 22 2004

COUNTY: MIAMI-  
DADE

DATE: 3/5/2004

COMMENTS DUE DATE: 4/4/2004

CLEARANCE DUE DATE: 5/4/2004

SAI#: FL200403085571C

*ok: survey will be conducted*

MESSAGE:

REFERENCE SAI # FL199908270695C

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	SOUTH FLORIDA WMD	ENVIRONMENTAL POLICY UNIT	
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
X STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- X Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
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NO.: 249614-4-21-01 - MIAMI-DADE COUNTY,  
FLORIDA.

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

EO. 12372/NEPA Federal Consistency

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> No Comment | <input checked="" type="checkbox"/> No Comment/Consistent |
| <input type="checkbox"/> Comment Attached      | <input type="checkbox"/> Consistent/Comments Attached     |
| <input type="checkbox"/> Not Applicable        | <input type="checkbox"/> Inconsistent/Comments Attached   |
|  | <input type="checkbox"/> Not Applicable                   |

From:

Division/Bureau: *Historical Resources / Historic Preservation*  
Reviewer: *Brian Yates*  
Date: *3/19/04*  
*J. Andrew P. Gagne*  
*Deputy SHPO*  
*3/25/04*

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MAR 29 2004

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MAR 29 PM 4:30

COUNTY: MIAMI-  
DADE

DATE: 3/5/2004

COMMENTS DUE DATE: 4/4/2004

CLEARANCE DUE DATE: 5/4/2004

SAI#: FL200403085571C

MESSAGE:

REFERENCE SAI # FL199908270695C

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	SOUTH FLORIDA WMD	X ENVIRONMENTAL POLICY UNIT	
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- ☒ Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
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FLORIDA.

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

EO. 12372/NEPA Federal Consistency

- ☒ No Comment
- ☐ Comment Attached
- ☐ Not Applicable

- ☐ No Comment/Consistent
- ☐ Consistent/Comments Attached
- ☐ Inconsistent/Comments Attached
- ☐ Not Applicable

From:

Division/Bureau: *OLB - Env. Policy*

Reviewer: *on 10/13/04*

Date: *4/13/04*

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APR 15 2004

OIP/OLGA

MAR - 9 2004



## **APPENDIX P**

*Miami-Dade County*  
*Department of Environmental Resources Management*  
*Environmentally Endangered Lands Program*  
*Coordination*



**From:** Guerra, Cynthia (DERM) [mailto:guerrcy@miamidade.gov]  
**Sent:** Thursday, August 02, 2007 10:03 AM  
**To:** susanne.travis  
**Cc:** Julio\_Boucle; Young, Emilie (DERM); Rodriguez, Cristina (MDPR); Dozier, Jane G. (MDPR)  
**Subject:** Owaissa Bauer Addition #1 / Krome Ave widening

Susanne:

Per our most recent phone calls, please accept this e-mail as EEL's response to recent requests for information.

With regards to the 4(f) determination, I am having a difficult time reconciling the information that EEL submitted in writing (Statement of Significance, dated 1/27/06) with the final opinion that the EEL preserve did not satisfy the requirements for protection under Section 4(f). The determination document, dated May 2006, makes reference to some communication with EEL staff in March of 2006 that serves as the basis for the opinion that Section 4(f) does not apply to the preserve. It would appear that the written record that I have reviewed would support the application of Section 4(f) to the preserve. I have no documentation of the March 2006 communication, and therefore can not reconcile the decision with the written record. In order to better understand the decision, I would like to review any documentation of that apparently critical March 2006 communication.

With regards to the minutes of our last on-site meeting, please note the following:

- J. Boucle indicated that he is continuing to work with FDOT to see if the denial for the exception for reduction in design speed can be revisited.
- FDOT and EEL should continue to discuss further reduction of the ROW with the goal of avoiding all impacts to the preserve, and appropriate mitigation for unavoidable impacts.
- Even under the current 151' ROW proposal, there are projected impacts to the preserve that should be quantified – types of vegetation affected, canopy removed, etc.
- If direct and indirect impacts can't be avoided, a plan should be developed for relocation and/or protection of existing listed plant species.
- If impacts can't be avoided, tree snails in areas of impacted canopy should be relocated.

Finally, I am trying to determine ownership of the ROW as it stands today. EEL acquired the property 1/11/96 and a survey was done at that time. A survey dated 7/24/02 was the final one accepted by FDEP. The acquisition excluded the West 35 feet (Krome Ave) because it was already dedicated roadway. The zoned ROW calls for another 27.5 feet on the eastside of the road; this was acquired by EEL and then transferred to FDEP under the CARL Program. I think I recall from our on-site meeting that ownership of the ROW was not clear. Has FDOT made a determination of ownership of the ROW? Has FDOT acquired the ROW from FDEP? Did FDOT pay for the ROW if it was acquired from FDEP? If FDOT acquired the ROW, was that acquisition done consistent with the requirements of the CARL Program?

Please understand that our objective here is to uphold the intent of our Miami-Dade County Code requirements, the commitment we made to the County Electorate when they authorized the EEL program to ensure the protection and preservation of EEL sites, and the commitment we made to the State of Florida when we partnered with the CARL Program.

Your assistance with these questions is greatly appreciated,  
Cynthia

Cynthia Guerra, ERPS  
Environmentally Endangered Lands Program  
Miami-Dade DERM  
701 N.W. 1 Ct.  
Miami, FL 33136  
Phone: (305) 372-6471  
Fax: (305) 372-6673  
[guerrcy@miamidade.gov](mailto:guerrcy@miamidade.gov)  
"Delivering Excellence Every Day"

Susanne Travis/D6/FDOT  
08/09/2007 11:18 AM  
To "Guerra, Cynthia(DERM)" <guerrcy@miamidade.gov>  
cc  
Subject RE: Owaissa Bauer Addition #1/Krome Ave widening  
(Document link: Susanne L Travis)

Cynthia, could you please go ahead and add in any additional additional comments you have with your initials or name (if appropriate) as we did for some of Julio's comments so it will be reflected the way you'd like.(e.g., C. Guerra stated, or the group discussed.....) I do recall touching on the possiblility of relocation, but I believe we also discussed that most of the area is limerock and it wasn't clear whether it would be possible to relocate.

thank you.

Susanne Travis  
Environmental Scientist  
FDOT Environmental Management Office  
1000 NW 111th Avenue, Room 6109  
Miami, FL 33172  
(305) 470-5568

---

"Guerra, Cynthia (DERM)" <guerrcy@miamidade.gov>  
08/09/2007 08:44 AM  
To <susanne.travis@dot.state.fl.us>  
cc  
Subject RE: Owaissa Bauer Addition #1/Krome Ave widening

Susanne: I think the minutes capture most of what we discussed on site, although they don't specifically address everything I sent last week. I do recall and have in my notes that we definitely discussed relocation of listed plant and animal species. Can you please add to the minutes those notes? I await your feedback on the other issues.

Thanks!  
Cynthia

Cynthia Guerra, ERPS  
Environmentally Endangered Lands Program  
Miami-Dade DERM  
701 N.W. 1 Ct.  
Miami, FL 33136  
Phone: (305) 372-6471  
Fax: (305) 372-6673  
[guerrcy@miamidade.gov](mailto:guerrcy@miamidade.gov)

"Delivering Excellence Every Day"

-----Original Message-----

From: [susanne.travis@dot.state.fl.us](mailto:susanne.travis@dot.state.fl.us)[mailto:[susanne.travis@dot.state.fl.us](mailto:susanne.travis@dot.state.fl.us)]  
Sent: Wednesday, August 08, 2007 4:44 PM  
To: Guerra, Cynthia (DERM)  
Cc: Young, Emilie (DERM); "Rodriguez, Cristina (MDPR) CristiR"  
Subject: Re: Owaissa Bauer Addition #1 / Krome Ave widening



Hi Cynthia.

thank you for sending comments on behalf of EEL in your email below.(1)  
Regarding the bulleted comments related to the field meeting held at the  
Owaissa Bauer site on 6-14-07: we have incorporated your email bullet #1  
into the meeting minutes, and also added the explanation that the Department  
has reduced the typical section as much as possible undercurrent design  
standards and criteria (see the revised meeting minutes, attached).If there  
are no other comments on the actual field meeting, we would like to consider  
these minutes as finalized.2) We are also working to address the other  
bulleted items from your email (feedback received from you subsequent to the  
field meeting), and the other questions you raised (e.g., Section 4(f), and  
right-of-way).Additional correspondence to this effect will be sent to you in  
the near future.

---

If EEL or NAM has any additional questions/comments, please let me or the  
Project Manager, Vilma Croft, know.

-- Susanne Travis (305) 470-5568  
-- Vilma Croft (305) 470-5240

(See attached file: EEL Field Meeting Minutes 06.14.07\_Rev..doc)

thank you,  
Susanne

Susanne Travis  
Environmental Scientist  
FDOT Environmental Management Office  
1000 NW 111th Avenue, Room 6109  
Miami, FL 33172  
(305) 470-5568

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"Guerra, Cynthia (DERM)" <guerrcy@miamidade.gov>  
08/02/2007 10:02 AM  
To <susanne.travis@dot.state.fl.us>  
cc <Julio\_Boucle@URSCorp.com>,"Young, Emilie (DERM)" <YoungE@miamidade.gov>,  
"Rodriguez, Cristina (MDPR)"<CristiR@miamidade.gov>, "Dozier, Jane G. (MDPR)"  
<DOZIEJ@miamidade.gov>  
Subject Owaissa Bauer Addition #1/Krome Ave widening

Susanne:

Per our most recent phone calls, please accept this e-mail as EEL's response  
to recent requests for information. With regards to the 4(f) determination, I  
am having a difficult time reconciling the information that EEL submitted in  
writing (Statement of Significance, dated 1/27/06) with the final opinion  
that the EEL preserve did not satisfy the requirements for protection under  
Section 4(f). The determination document, dated May 2006, makes reference to  
some communication with EEL staff in March of 2006 that serves as the basis  
for the opinion that Section 4(f) does not apply to the preserve. It would  
appear that the written record that I have reviewed would support the  
application of Section 4(f) to the preserve. I have no documentation of the  
March 2006 communication, and therefore can not reconcile the decision with

the written record. In order to better understand the decision, I would like to review any documentation of that apparently critical March 2006 communication. With regards to the minutes of our last on-site meeting, please note the following: J. Boucle indicated that he is continuing to work with FDOT to see if the denial for the exception for reduction in design speed can be revisited. FDOT and EEL should continue to discuss further reduction of the ROW with the goal of avoiding all impacts to the preserve, and appropriate mitigation for unavoidable impacts. Even under the current 151' ROW proposal, there are projected impacts to the preserve that should be quantified - types of vegetation affected, canopy removed, etc. If direct and indirect impacts can't be avoided, a plan should be developed for relocation and/or protection of existing listed plant species. If impacts can't be avoided, tree snails in areas of impacted canopy should be relocated. Finally, I am trying to determine ownership of the ROW as it stands today. EEL acquired the property 1/11/96 and a survey was done at that time. A survey dated 7/24/02 was the final one accepted by FDEP. The acquisition excluded the West 35 feet (Krome Ave) because it was already dedicated roadway. The zoned ROW calls for another 27.5 feet on the eastside of the road; this was acquired by EEL and then transferred to FDEP under the CARL Program. I think I recall from our on-site meeting that ownership of the ROW was not clear. Has FDOT made a determination of ownership of the ROW? Has FDOT acquired the ROW from FDEP? Did FDOT pay for the ROW if it was acquired from FDEP? If FDOT acquired the ROW, was that acquisition done consistent with the requirements of the CARL Program? Please understand that our objective here is to uphold the intent of our Miami-Dade County Code requirements, the commitment we made to the County Electorate when they authorized the EEL program to ensure the protection and preservation of EEL sites, and the commitment we made to the State of Florida when we partnered with the CARL Program.

Your assistance with these questions is greatly appreciated,  
Cynthia

Cynthia Guerra, ERPS  
Environmentally Endangered Lands Program  
Miami-Dade DERM  
701 N.W. 1 Ct.  
Miami, FL 33136  
Phone: (305) 372-6471  
Fax: (305) 372-6673  
guerrcy@miamidade.gov  
"Delivering Excellence Every Day"



**SUBJECT** - SR 997/Krome Avenue/SW 177th Avenue (south) from SW 296th Street (Avocado Drive) to SW 136th Street (Howard Drive), Miami-Dade County, Florida  
FM # 249614-4 / Project Development and Environment (PD&E) Study.

Project Meeting with the Florida Department of Environmental Protection (FDEP) in Tallahassee in reference to the Environmentally Endangered Lands (EEL) Program to discuss the Owaissa Bauer Addition #1 Site coordination and minimization efforts for the Krome Avenue South PD&E Study.

### **DATE & TIME**

Tuesday, November 20, 2007  
2:00 PM

### **MEETING LOCATION**

Florida Department of Environmental Protection Office Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

### **ATTENDEES**

Jim Farr, Planning Manager, Office of Environmental Services, FDEP  
Diane C. Rogowski, Sr. Acquisition Review Agent, Division of State Lands, FDEP  
Kime H. Landes, Government Operations Consultant II, Division of State Lands, FDEP  
Roy A. Jackson, State Historic Resources Coordinator, FDOT Central Office  
Vicki Sharpe, State Natural Resources Coordinator, FDOT Central Office  
Cathy Owen, District Cultural Resources Coordinator/Environmental Manager, FDOT District VI  
Marjorie Bixby, District Environmental Administrator, FDOT District VI (via phone)  
Vilma Croft, Sr. Project Manager, FDOT District VI (via phone)  
Julio Bouclé, Consultant Project Manager, URS Corporation

### **MEETING SUMMARY**

The purpose of this meeting was to discuss the proposed impacts of the Krome Avenue PD&E Study on the EEL Owaissa Bauer Addition #1 site, and solicit comments from the FDEP representatives for the PD&E Study. The following is a summary of the meeting:

- J. Boucle introduced the FDOT District VI Krome South PD&E study and its background, including the need for improvements due to safety and future roadway capacity of this Florida Intrastate Highway System (FIHS) facility; the importance of this type of roadway in the State highway network was also noted. He explained that the PD&E study would be completed by 2008, and that design and construction would follow once project funding is allocated; however, at this time neither phase (design or construction) is funded.





- J. Boucle explained the different typical section alternatives considered for the project, ranging from two-lane undivided and/or divided typical sections to four-lane divided typical sections. The existing right-of-way on this 10-mile section of the corridor varies from 50 feet to 200 feet in width, and in the segment of Owaissa Bauer Addition #1, the existing right-of-way is constrained and insufficient to implement a four-lane divided typical section scenario.
- The existing Krome Avenue right-of-way along the Owaissa Bauer property is 61 feet wide. The right-of-way measurements along the property are 35 feet to the east of Krome Avenue (facing the property) and 26 feet to the west, measured from the center line of the roadway.
- FDEP staff corroborated that Owaissa Bauer Addition #1 was a Conservation and Recreational Lands (CARL) property bought with state funds, was owned by FDEP, and was managed by the local Miami-Dade County Department of Environmental Resources Management (DERM) Environmentally Endangered Lands (EEL) program.
- The FDOT project team noted they had been coordinating this project and its potential impacts with the local management agency/EEL group for the last two years. Extensive coordination efforts including meeting minutes, exhibits, minimization options, etc. exist in the project file.
- D. Rogowski asked if FDOT had obtained DERM approval yet. C. Owen said that there had been concern by DERM EEL staff regarding any right-of-way impacts/acquisition from the site.
- V. Sharpe asked if she could get a copy of FDEP's land management review of DERM's management plan for this parcel to help facilitate any further identification of potential mitigation options. J. Farr indicated he did not think that FDEP had conducted a land management review of this parcel yet, but he would follow up and send FDOT a copy if one had been completed.
- FDEP staff explained the potential mitigation options available: replacement of lands, long term land management, restoration, or a combination of options.
- FDOT identified several mitigation possibilities they had proposed in addition to land acquisition, including removal of the old road that extends partway into the property (located approximately 400' east of Krome Avenue off SW 264<sup>th</sup> Street), or fencing the property boundary. However, limited input had been given by DERM EEL staff and thus no final mitigation had been agreed upon yet.
- The project team showed a project plan sheet on aerial photographic view with the original right-of-way needs from this parcel for Alternative 4 (FDOT Plans Preparation Manual Standards – 172' typical section), and the minimized typical section superimposed on the aerial view, to illustrate the comparative reduction of right-of-way needs between original and minimized typical section alternatives. J. Boucle stated that the FDOT District VI Design Section has concurred with the proposed minimization alternative in front of the EEL parcel in order to reduce the potential impacts.
- C. Owen added that the project team had previously explored the possibilities of further reducing the footprint of the typical section by requesting a design exception (for design speed reduction) from FDOT Central Office, but the request was denied. J. Boucle said the team will continue to work with FDOT Central Office to revisit this request.





- J. Boucle stated that the FDOT has minimized the typical section to the maximum extent possible under the current design criteria and standards. The minimization alternative represents a reduction of 21 feet in width with respect to the original alternative (Alternative 4) along the EEL parcel. The minimized, proposed typical section includes a guardrail protection along the west side of the EEL parcel, and a valley gutter to convey stormwater away from the EEL parcel and into a catch basin inlet for water treatment.
- This reduction in typical section width minimizes the right-of-way needs from 1 acre to .69 acre, which is a decrease to .31 acre from the EEL parcel. C. Owen noted that most of this .31 acre area is scarified, i.e., not pine rockland habitat. FDEP staff inquired if FDOT had an existing easement along the property, since the proposed improvements and associated impacts could be accomplished with a permanent easement; FDOT said they did not.
- FDEP staff provided the project team with copies of the “Use of Natural Resource Lands by Linear Facilities” Policy. C. Owen and R. Jackson said that FDOT was required to follow a similar process for public lands (i.e., avoidance, minimization, etc.). M. Bixby inquired if FDEP had any further guidance regarding this policy, and J. Farr responded that such guidance was still being developed.
- FDEP staff also provided copies of the “Upland Easement Application” to be reviewed and completed at the appropriate time. Information to be included with this application consists of a resolution from the Miami-Dade County Commission and written approval from the managing agency/DERM EEL.
- FDEP staff inquired as to the project’s time frame, and FDOT explained that the application for this project does not require immediate action given by FDEP, since no funds allocation exists for design or construction yet. J. Boucle suggested that the application process could begin following the Public Hearing for the project, which is expected to occur in April 2008; FDEP staff agreed.
- FDEP staff stated that the Acquisition and Restoration Council (ARC) will be approving that the project (easement) is consistent with the Board of Trustees’ Linear Facilities Policy. (The Cabinet would not need to approve due to the small easement size.) After ARC approval, the Board of Trustees will have delegated authority to approve the easement. Any temporary use during construction would require a separate easement.
- FDEP stated that concerning FDEP-owned property that is managed by local governments, the ARC normally defers to the recommendations of those charged with managing the resource; however, the ARC makes the ultimate decision.
- FDEP also noted that local comprehensive plans and local government resolutions associated with the conservation lands could serve as the managing agency's opinion regarding the conservation lands in question. Specific to the Owaissa Bauer Addition #1 site, the local government’s comprehensive plan regarding the road widening coupled with the development already occurring along Krome Avenue and any County resolution regarding the Krome Avenue project could serve as the local agency's acceptance of the conversion of the land in question.





- FDEP staff stated that FDOT would need a resolution from the Miami-Dade County Board of County Commissioners (BOCC) endorsing the easement for this property. J. Boucle stated that there is a Miami-Dade County Commission resolution amending the Long Range Transportation Plan (LRTP) directing the FDOT to study the widening of Krome Avenue from US 1 to Okeechobee Road.
- It was discussed that an update to the existing Miami-Dade County BOCC resolution could be used for the easement request.
- The reasons to request the easement should include: right-of-way impacts based on the different alternatives, costs of impacts to private property vs. the EEL property, roadway safety and capacity issues, emergency/hurricane evacuation concerns, economic impacts to the area, etc. FDEP added that FDOT had a better chance of getting the easement if they were not impacting the purpose of the land.
- FDEP added that actual conditions along the project impacted area of the site i.e., scarification, dumping, illegal parking issues, etc. should be stated. Also, a recent property survey should be included as part of the application package.
- FDEP was pleased to see that FDOT was being proactive in this particular coordination effort. FDEP suggested FDOT should submit the easement application with a copy to Miami-Dade County DERM, and then start to prepare the ARC item.
- J. Farr asked who FDOT had been coordinating with at DERM EEL; C. Owen/J. Boucle replied it had been Emilie Young (EEL Program Administrator) throughout the study, and a new EEL staff member (Cynthia Guerra), formerly on the project's Citizen Advisory Committee, and recently had indicated a preference for no widening of the roadway.
- J. Farr said he would call Emilie Young to obtain feedback from the local management agency.
- FDEP asked who would be reviewing the Environmental Impact Statement (EIS) and if DERM could be included on the list for commenting agencies. J. Boucle replied that all jurisdictional agencies will receive a copy of the Draft EIS, and that DERM and FDEP would be included on the list. FDEP staff noted that Scott Woolan was the Bureau Chief of Public Lands Administration.
- C. Owen noted that this project has been coordinated with the regulatory agencies through the Efficient Transportation Decision Making (ETDM) process. M. Bixby reviewed the FDEP comments received on environmental issues of concern (e.g., wetlands, contamination).
- FDOT will continue the coordination efforts with FDEP and DERM EEL to resolve any pending issues.
- The coordination meeting was adjourned at 3:30 PM.

Please report any comments / additions / deletions and/or modifications to the progress meeting minutes to Julio Bouclé, Project Manager, within five (5) working days of receiving them.

**Attachments** [Board of Trustees' Linear Facilities Policy & Upland Easement Application]



## POLICY

### Use of Natural Resource Lands by Linear Facilities

#### As Approved By

#### Board of Trustees of the Internal Improvement Trust Fund

on January 23, 1996

#### **(A) Purpose and Scope.**

(1) This policy applies only to linear facilities, including electric transmission and distribution facilities, telecommunications transmission and distribution facilities, pipeline transmission and distribution facilities, public transportation corridors, and related appurtenances.

(2) While it is appropriate to discourage and prohibit most kinds of intrusions on natural resource lands, the Trustees recognize that the expanding ownership of lands by the state and the need to provide services to a growing population through linear facilities and related appurtenances will from time to time require crossings and location on such lands. The goal of this policy is to avoid and minimize conflicts between the acquisition and management of natural resource lands for conservation, recreation, and preservation and activities necessary for the construction, operation and maintenance of linear facilities and related appurtenances.

#### **(B) Definitions.**

(1) "Natural Resources" include but are not limited to wetlands, lakes, rivers, streams, estuaries and other surface and ground water resources, flora, fauna, fish and wildlife, natural communities, historical and archaeological resources, scenic vistas and aesthetic values.

(3) "Natural Resource Lands" are those lands owned by the Trustees and which: were acquired with funds from the P2000 or Save Our Coast Bond Program; or were acquired with funds from the CARL or LATF Trust Fund; or are managed for natural resources by the Division of Recreation and Parks, Division of Marine Resources, Game and Fresh Water Fish Commission, Division of Forestry, or Secretary of State.

(3) "Related Appurtenances" include those support facilities necessary to the operation of linear facilities. (Examples include but are not limited to substations and pump-stations.)

(4) "Trustees" means the Board of Trustees of the Internal Improvement Trust Fund.

#### **(C) Avoidance.**

Owners and operators of linear facilities must avoid location on natural resource lands unless no other practical and prudent alternative is available and all steps to minimize impacts as set forth below are implemented. The test of practicality and prudence will compare the social, economic, and environmental effects of the alternatives.

**(D) Minimizing Impacts.**

Applicants must minimize adverse impacts to natural resource lands through reasonable measures where applicable: locating the project in areas where less adverse impacts are expected, such as areas which have already been impacted and are less sensitive than other areas; avoiding significant wildlife habitats, natural aquatic areas, wetlands, or other valuable natural resources; selecting areas to minimize damage to existing aesthetically-pleasing features of the lands; employing best management practices in construction and operation activities; designing access roads and site preparation to avoid interference with hydrologic conditions that benefit natural resources and reduce impacts on other natural resources and public use and enjoyment; and; generally selecting areas that will not increase undesirable human activities on the natural resource lands; and generally, not adversely impacting the management of such lands. However, human activities may be encouraged where linear facility corridors are designated as part of a greenway or trail.

**(E) Compensation.**

(1) The applicant will pay the Trustees an amount not to exceed the fair market value of the interest acquired in the parcel on which the linear facility and related appurtenances will be located.

(2) In addition to the amount in (E) (1) above, the applicant will provide to the managing agency that measure of additional money, land, or services necessary to offset the actual adverse impacts reasonably expected to be caused by the construction, operation and maintenance of the linear facility and related appurtenances. Such impact compensation will be calculated from the land managing agency's timely presentation of documented costs which will result from the impacts of the proposed project.



**UPLAND EASEMENT APPLICATION**  
**BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND**  
**OF THE STATE OF FLORIDA**

This application is to be used in order to apply for easement interest in land, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Board of Trustees). If you have any questions, after reading this application form, you may call (850) 245-2720 for assistance. Mail application to: Department of Environmental Protection, Division of State Lands, Bureau of Public Land Administration, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, MS 130.

**SPECIAL NOTE TO ALL APPLICANTS: SUBMITTAL OF A COMPLETE APPLICATION SHALL NOT OPERATE TO CREATE ANY RIGHTS OR CONSTITUTE ANY GROUNDS FOR THE DEPARTMENT TO RECOMMEND APPROVAL OF ANY EASEMENT. THE BOARD OF TRUSTEES HAS THE AUTHORITY AND RESERVES THE RIGHT TO DENY ANY EASEMENT APPLICATION. ALL COSTS INCURRED BY APPLICANTS COMPLYING WITH THE REQUIREMENTS OF THIS APPLICATION SHALL BE AT THEIR OWN RISK. COSTS ASSOCIATED WITH OBTAINING AN EASEMENT ARE NON-REFUNDABLE AND SHALL BE ASSUMED BY THE APPLICANT INCLUDING, BUT NOT LIMITED TO, ALL APPRAISALS, ALL SURVEYS, ALL TITLE SEARCHES, AND ALL RECORDING FEES.**

**PRIOR TO COMPLETING THE APPLICATION, PLEASE BE ADVISED THAT:**

Any application to use state land which would result in significant adverse impact to state land or associated resources shall not be approved unless the applicant demonstrates there is no other alternative and proposes compensation or mitigation acceptable to the Board of Trustees pursuant to paragraph 18-2.018(2)(i), Florida Administrative Code. Any requested use of state land which has been acquired for a specific purpose, such as conservation and recreation lands, shall be consistent with the original specified purpose for acquiring such land pursuant to paragraph 18-2.018(2)(c), Florida Administrative Code. Applicants applying for an easement across state land which is managed for the conservation and protection of natural resources shall be required to provide net positive benefit pursuant to subsection 18-2.017(39), Florida Administrative Code, if the proposed easement is approved.

<b>Type of Easement:</b> <input type="checkbox"/> Private <input type="checkbox"/> Federal, Regional or Local Agency <input type="checkbox"/> State Agency	
<b>Applicant Information:</b>	
Name: _____	Home Phone: _____
Mailing Address: _____	Work Phone: _____
City: _____ State: _____ Zip: _____	Fax Number: _____
Email Address: _____	
<b>Representative Information: Only complete if someone will be handling this transaction on your behalf.</b>	
Name: _____	Home Phone: _____
Mailing Address: _____	Work Phone: _____
City: _____ State: _____ Zip: _____	Fax Number: _____
Email Address: _____	
<b>Property Information:</b>	
County: _____ Property Appraiser's Parcel Number: _____	
Section: _____ Township: _____ Range: _____ Zoning Designation: _____	
Intended Use of Property: _____	
<b>Include the Following with the Application: Please check all that are included</b>	
<input type="checkbox"/> <b>(Private Easements Only)</b> A check in the amount of \$300 made payable to the Department of Environmental Protection. This fee is non-refundable.	
<input type="checkbox"/> <b>(Private Easements Only)</b> A written commitment to pay an easement fee based on the appraised market value of the proposed easement.	
<input type="checkbox"/> <b>(Local Governments Only)</b> A formal resolution adopted by the Board of County/City Commissioners requesting the proposed easement.	
<input type="checkbox"/> Recent aerial photograph with the boundaries of proposed easement area identified.	
<input type="checkbox"/> A statement describing the public benefits that will occur as a result of the proposed easement.	
<input type="checkbox"/> A letter from the applicable local planning agency stating that the proposed easement is consistent with the local government Comprehensive plan adopted pursuant to section 163-3167, Florida Statutes.	
<input type="checkbox"/> A county tax map identifying the parcel proposed for easement.	
<input type="checkbox"/> Two prints of a certified survey of the easement area meeting the minimum technical standards of Chapter 61G17-6 Florida Administrative Code, which contain the boundaries, legal descriptions, and acreage of the property.	
<input type="checkbox"/> A statement of written approval from the managing agency along with a statement from the managing agency describing how the proposed easement conforms to the management plan when the easement application involves state land which is under lease, sublease, easement, or management agreement.	
<input type="checkbox"/> Applications for easements across state land shall include a statement of intended use which shall include, at a minimum, the following:	
1. The requested term for the proposed easement which shall not be greater than is necessary to provide for the reasonable use of the state land.	
2. The need for the proposed easement and written evidence that all other alternatives to the use of state land have been denied.	
3. Projected revenue to be generated from the use of the state land.	
4. Whether the intended use is public or private and the extent of public access for such use.	
5. A description of the type of facility proposed for the easement area (e.g. road, overhead utility, pipes, etc.)	
<b>***General Information:</b> The granting or approval of an easement that will negatively affect the Board of Trustees' ability to manage uplands in a manner that achieves maximum public benefit will be discouraged pursuant to paragraph 18-2.018(2) (b), Florida Administrative Code. The successful grantee shall assume all liability for the property covered by the easement.	



**SUBJECT** - SR 997/Krome Avenue/SW 177th Avenue (south) from SW 296th Street to SW 136th Street (FM # 249614-4) Project Development and Environment (PD&E) Study.

Field meeting with the Environmentally Endangered Lands (EEL) Program Group to discuss the Owaissa Bauer Addition #1 Site minimization efforts for the Krome Avenue South PD&E Study. **(Final)**

### **DATE & TIME**

Thursday, June 14, 2007  
3:00 PM

### **LOCATION**

Owaissa Bauer Addition #1 Site  
Krome Avenue and SW 264<sup>th</sup> Street

### **ATTENDEES**

Emilie Young, DERM EEL  
Cynthia Guerra, DERM EEL  
Cristina Rodriguez, Parks & Recreation (P&R) Natural Areas Management (NAM)  
Jane Dozier, P&R NAM  
Cathy Owen, FDOT  
Susanne Travis, FDOT  
Michael Breiner, URS  
Julio Boucle, URS

### **MEETING SUMMARY**

The purpose of this field meeting was to discuss the typical section minimization efforts to reduce the impacts of the Krome Avenue PD&E Study on the EEL Owaissa Bauer Addition #1 site, and elicit comments from the EEL and NAM representatives for the PD&E Study. The following is a summary of the meeting:

- J. Boucle re-capped on the Krome South PD&E study and its background, including the need for improvements due to safety and future roadway capacity,
- It was stated that this is a Florida Intrastate Highway Facility (FIHS) and the importance of this type of roadway in the State highway network,
- The project team explained the different typical section alternatives considered for the project,
- The existing right-of-way on this 10 mile section of the corridor varies from 50-200' in width, and in this particular segment the existing right of way is constrained and insufficient to implement a four-lane divided typical section scenario,







- A project plans package was distributed with the following information: aerial view with the original right of way needs from this parcel for Alternative 4 (PPM – 172' typical section), minimized typical section super imposed on aerial view, and aerial view with comparative reduction of right of way needs between original and minimized typical section Alternative 4A.
- J. Boucle noted that the FDOT would like to preserve the project area in its rural state. Therefore, no curb and gutter is proposed and drainage will be handled with a valley gutter in front of the EEL property. A sketch detail was presented to illustrate this concept.
- J. Boucle stated that the FDOT Design Section has concurred with the proposed minimization alternative in front of the EEL parcel in order to reduce the potential impacts to the listed plant species.
- J. Boucle added that the Team had previously explored the possibilities of further reducing the footprint of the typical section by requesting a design exception (for design speed reduction) from FDOT Central Office, but the request was denied. The Team will continue to work with FDOT Central Office to revisit this request.
- It was explained that the Department has minimized the typical section to the maximum extent possible under the current design criteria and standards.
- M. Breiner flagged in the field the approximate guardrail line for the minimized typical section.
- The flagged distances were measured from the edge of pavement/travel lane (EOP) into the Owaissa Bauer property, so EEL & NAM would know where the proposed typical section would end.
- The minimization alternative represents a reduction of 21 feet in width with respect to the original alternative (Alternative 4) along the EEL parcel. This reduction in typical section width minimizes the right of way needs from 1 acre to .69 acre, a decrease of .31 acre from the EEL parcel.
- The minimized typical section contains a guardrail along the west side of the EEL parcel.
- M. Breiner explained the different type of plant species present at the tree line boundary of the EEL property and directed the participants to the location of a critically imperiled plant, Carter's flax (*Linum carteri*), which occurs in an area outside of the minimized typical section Alternative 4A.
- C. Guerra requested that J. Boucle provides a copy of the Determination of Section 4(f) Applicability.
- C. Guerra asked who would be reviewing the Environmental Impact Statement (EIS) and if DERM could be included on the list for commenting agencies.
- S. Travis replied that all agencies review the EIS and that DERM would be included.
- Several mitigation possibilities were discussed/mentioned including repaving the old road that extends partway into the property (located approximately 400' east of Krome Avenue off SW 264<sup>th</sup> Street) or fencing the property boundary.
- The representatives of EEL and NAM stated that they would discuss internally the information provided at this meeting and would contact the Team shortly.





- C. Guerra asked that FDOT and EEL continue to discuss further reduction of the ROW with the goal of avoiding all impacts to the preserve, and appropriate mitigation for unavoidable impacts,
- EEL noted that even under the current 151' ROW proposal, there are projected impacts to the preserve that should be quantified - types of vegetation affected, canopy removed, etc.,
- EEL staff stated that if direct and indirect impacts can't be avoided, a plan should be developed for relocation and/or protection of existing listed plant species,
- EEL staff stated that if impacts can't be avoided, tree snails in areas of impacted canopy should be relocated,
- The field meeting was adjourned at 4:15 PM.

Report to Julio Bouclé, Project Manager, any comments / additions / deletions and/or modifications to the progress meeting minutes within five (5) working days of receiving it.

- Added as per C. Guerra comments in email of 8/02/07.





**SUBJECT** – Minimization efforts and coordination with FDOT Design Section.

SR 997/Krome Avenue/SW 177th Avenue (south) from SW 296th Street to SW 136th Street  
(FM # 249614-4) Project Development and Environment (PD&E) Study  
Design issues and concerns regarding the proposed widening alternatives of Krome Avenue south, and its effects on the Environmentally Endangered Lands Program (EEL) Owaissa Bauer Addition #1 Site.

### **DATE & TIME**

Tuesday, June 05, 2007  
10:00 AM

### **LOCATION**

FDOT District VI – Conference Room B  
PLEMO  
1000 NW 111 Avenue  
Miami, Florida 33174

### **ATTENDEES**

Vilma Croft, FDOT  
Cathy Owen, FDOT  
Susanne Travis, FDOT  
Harold Desdunes, FDOT  
Pablo Alonso, FDOT  
Julio Boucle, URS

### **MEETING SUMMARY**

The purpose of this meeting was to discuss the proposed impacts of the Krome Avenue PD&E Study on the EEL Owaissa Bauer Addition #1 site, and coordinate with the FDOT District VI Internal Design Unit regarding the potential minimization treatments applicable and acceptable to the Design Section.

The following is a summary of the meeting:

- J. Boucle introduced the two potential minimization treatments that would reduce the potential impacts to the subject parcel,
- The two design variation treatments would be: Guardrail protection and Parapet wall protection,
- An “Avoidance Alternative” was explored and considered not feasible due to the additional right-of-way impacts and relocations associated with it,
- The existing right-of-way constraints in the area would require the acquisition of land from this protected parcel,





- J. Boucle noted that the FDOT would like to preserve the project area in its rural state. Therefore, no curb and gutter is proposed,
- Mr. Desdunes and Mr. Alonso recommended that the Team move forward with the Guardrail option. Ms. Croft noted that this option will have less construction impacts than the parapet wall,
- They noted that no Design Variation will be needed for the border width,
- Mr. Desdunes requested that the sketches be modified to show the guardrail flare close to the SW 264 St. intersection,
- Also the applicable FDOT Standards Index Number should be referenced in the drawing,
- The Department will request elevation survey information at the intersection for preliminary drainage design purposes,
- The initial right-of-way needed from this parcel is estimated at 1 acre if Alternative 4 would be implemented,
- J. Boucle stressed the importance of having design flexibility in order to minimize impacts to the site. The design effort to add a guardrail treatment in front of the parcel shows a right-of-way reduction of .31 acres,
- Owaissa Bauer Addition #1 was a Conservation and Recreational Lands (CARL) property bought with state funds and EEL funds, and managed by EEL.
- The meeting was adjourned at 11:00 AM.







### **SUBJECT**

Florida Department of Transportation's (FDOT) Krome Avenue South PD&E Study – Owaissa Bauer Addition No. 1 Coordination Meeting with Miami-Dade County Department of Environmental Resource Management (DERM) Environmentally Endangered Lands Program (EEL)

### **DATE & TIME**

April 27, 2006

2:30 PM to 4:00 PM

### **LOCATION**

Miami-Dade County DERM Office  
33 SW 2<sup>nd</sup> Avenue, Suite PH-2  
Miami, Florida 33130

### **ATTENDEES**

Emilie Young (DERM EEL)  
Christina Casado-Acorn (DERM EEL)  
Jane Dozier (Miami-Dade Parks Natural Areas Management)  
Susanne Travis (FDOT)  
Christie Pritchard (Pritchard Environmental)  
Julio Boucle (URS)  
Michael Breiner (URS)

### **MEETING SUMMARY**

The purpose of this meeting was to bring the EEL managers up to date on the Krome South Project Development & Environment (PD&E) Study's alternatives analysis and project progress.

Julio Boucle explained that the design exception for reduction in design speed had been denied by FDOT Central Office (Tallahassee), but that the team was still pursuing reduction of the typical section width through the process of obtaining a potential variance for the roadway border width.

He presented the current alternatives under study and distributed handouts consisting of the aerial photos of the EEL site, Owaissa Bauer Addition No. 1, with the different alternatives superimposed to show the amount of acreage affected by each alternative. He also handed out a narrative on each alternative and the general summary of the project. The alternative plans distributed show current right-of-way (R/W) needs for Alternative 1 (2 lanes), Alternative 2 (2 lanes with passing zone in some sections along the corridor; however, no passing zone along the Owaissa Bauer Addition No. 1 Parcel), Alternative 3 (FIHS/4 lanes), and Alternative 4 (PPM/4 lanes). It was noted that the existing FDOT R/W (red dashed line) extends 12 feet beyond the edge of pavement in front of the EEL property.





All alternatives are possible scenarios, and are still under full consideration by the Project Team. It was also explained that any small shift in the alignment will affect the properties north and south and behind of the shifted area. It may be possible to tweak or refine the alignment slightly.

The entire parcel of Owaissa Bauer Addition No. 1 is slightly under 10 acres in size. The team asked that EEL staff think about what their concerns are in regard to this property, and said that they would try to work with them to lessen the overall effect of the potential impacts. The team suggested that EEL staff consult among themselves for ideas, and then we could regroup via conference call in a few weeks.

Christina Casado-Acorn asked if it might be possible for FDOT to help with removal of asphalt pavement/old roadbed in portions of the property, in order to restore the natural substrate. Susanne Travis said she did not know if it would be possible, that sometimes it's easier to make a monetary contribution rather than a separate project, but to not rule out anything at this time.

Christina was concerned about the toe of slope and drainage into the EEL property. Julio replied this was an issue that is still under investigation, and that the team will minimize any potential drainage-related impacts to the property to the maximum extent.

Jane Dozier asked that the FDOT not plant St. Augustine grass near their boundary as it is invasive. She and Christina noted that some of the State-protected plants do relocate well (e.g., *Zamia* and *Tetrazygia*), but they aren't sure if they have an appropriate site. *Coccothrinax* (silver thatch palm) does not relocate well.

Mike Breiner had prepared an aerial and plant list of protected plants on the site which he distributed. The Federal candidate species *Linum carteri* var. *carteri* (Carter's flax) was observed in the periodically mowed portion of Owaissa Bauer Addition No. 1 within the proposed R/Ws. He noted that per the U.S. Fish & Wildlife Service, there is no statutory protection for Federal candidate species under the Endangered Species Act.

Jane noted that in addition to the state-listed plants identified, *Liguus* tree snails (State Species of Special Concern) are present on *Lysiloma* (wild tamarind) trees in Owaissa Bauer Addition No. 1 within the proposed R/Ws [Alternatives 3 and 4 only].

Earlier, Susanne Travis had given an explanation of Section 4(f) (i.e., US DOT Act of 1996 as amended), which requires the Federal Highway Administration (FHWA) to make a special effort to preserve public lands (e.g., public parks, recreation lands, refuges and historic sites). The first step is to see if the property falls under a Section 4(f) category. The FDOT does not have that determination yet from FHWA on whether Owaissa Bauer Addition No. 1 qualifies as a Section 4(f) property. The FDOT expects to have a response from FHWA in approximately 6 weeks, and







the team would let the EEL group know the outcome. Susanne noted that EEL had provided FDOT with their statement of significance letter.

Emilie mentioned that they probably wouldn't develop this property as a park since Camp Owaissa Bauer is very close by, and already functions for that purpose.

The meeting was adjourned at 4:00 PM.





**SUBJECT** - SR 997/Krome Avenue/SW 177th Avenue (south) from SW 296th Street to SW 136th Street (FM # 249614-4) Project Development and Environment (PD&E) Study  
Issues and concerns regarding all the proposed widening alternatives of Krome Avenue south, and its effects on the Environmentally Endangered Lands Program (EEL) Owaissa Bauer Addition #1 Site.

### **DATE & TIME**

Wednesday, July 20, 2005  
1:00 PM

### **LOCATION**

Miami-Dade County Department of Environmental Resources Management (DERM)  
Thomas Center Annex  
172-A West Flagler Street  
Miami, Florida 33130

### **ATTENDEES**

Emilie Young, DERM EEL  
Christina Casado-Acorn, DERM EEL  
Cristina Rodriguez, Parks & Recreation (P&R) Natural Areas Management (NAM)  
Jane Dozier, P&R NAM  
Tim Joyner, DERM Natural Forest Community (NFC)  
Julio Boucle, URS  
Susanne Travis, FDOT  
Christie Pritchard, Pritchard Environmental .  
Ryan Solis, The Corradino Group  
Karen Marie de Guzman, URS

### **MEETING SUMMARY**

The purpose of this meeting was to discuss the proposed impacts of the Krome Avenue PD&E Study on the EEL Owaissa Bauer Addition #1 site, and illicit comments from the EEL and NAM representatives for the PD&E Study. The following is a summary of the meeting:

- J. Boucle introduced the Krome South PD&E study and its background, including the need for improvements due to safety and future roadway capacity,
- The project team explained that the PD&E study would be completed by 2007, design to be completed between 2007 and 2011, and construction could take place by 2012,
- The existing right-of-way on this 10 mile section of the corridor varies from 50-200' in width,
- E. Young commented that all the typical sections show the shared bike & pedestrian and equestrian paths,





- J. Boucle noted that the FDOT would like to preserve the project area in its rural state. Therefore, no curb and gutter is proposed,
- Other modes of transportation in the area would be considered as well as part of the PD&E Study,
- A “Design Exception” to lower the design speed within the project limits had been requested from the FDOT Central Office. If this request was granted, substantial right of way savings could be obtained from a narrower median width and border width,
- J. Boucle requested information about the importance of the resource and what sort of flexibility there would be for impacts to the site,
- E. Young explained that Owaissa Bauer Addition #1 was a Conservation and Recreational Lands (CARL) property bought with state funds, owned by FDEP, and managed by EEL. In addition, she stated EEL & NAM would like as few impacts to the site as possible,
- E. Young explained that she thought the county retained ownership of the right-of-way section when they turned the land over to the state, but she would confirm this information. It may be also that the county just retained a strip of the right-of-way,
- C. Pritchard advised that the FDOT would be requesting a Letter of Significance, including resources of importance and where they are, specifically if they are in the herbaceous (non-forested) area of the property,
- S. Travis requested that J. Boucle provide distances from the edge of pavement/travel lane (EOP) into the Owaissa Bauer property, so EEL & NAM would know where they need to survey for species,
- R. Solis advised that for the worse case scenario, if no design exception is approved and the widest alternative was considered, impacts would be approximately 72 feet from the EOP,
- Aerials depicting each of the five alternatives are attached,
- J. Boucle measured on the small aerial that the tree line on the EEL property was approximately 30 feet from the EOP on the south end and approximately 80 feet from the EOP on the north end,
- C. Pritchard gave E. Young and C. Casado-Acorn a sample of the kind of information that would be needed for a Determination of Applicability (DOA) and gave them an example document from another property,
- C. Casado-Acorn asked who would be reviewing the Environmental Impact Statement (EIS) and if DERM could be included on the list for commenting agencies,
- J. Boucle replied that all agencies review the EIS and that DERM would be included
- C. Casado-Acorn asked that the FDOT make sure that no staging would occur on the property during the construction. She added that EEL & NAM may have to erect a chain link fence prior to construction,
- C. Pritchard asked what kind of mitigation EEL & NAM would propose for impacts to the property. E. Young suggested that prescribed burns and exotic removal were possibilities,
- The meeting was adjourned at 2:45 PM.





## **APPENDIX Q**

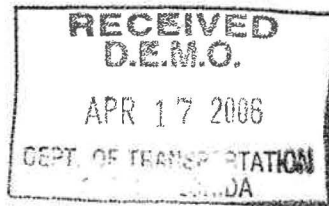
*Miami-Dade County*  
*Department of Environmental Resources Management*  
*“Statement of Significance” Letter*





## Department of Environmental Resources Management

Environmentally Endangered Lands Program  
33 SW 2nd Avenue, PH 2  
Miami, Florida 33130-1540  
T 305-372-6687 F 305-372-6759



miamidade.gov

April 11, 2006

Ms. Alice N. Bravo, P.E.  
Florida Department of Transportation  
District Planning and Environmental Management Office  
1000 NW 111<sup>th</sup> Avenue, Rm. 6109  
Miami, FL 33172

Re: Statement of Significance—Owaissa Bauer Addition No. 1, Krome Avenue South Project Development & Environmental Study, FDOT  
Financial Mgmt No: 249614-4-21-1, Miami-Dade.

Dear Ms. Bravo:

We have reviewed your information request for the Krome Avenue South Project that is proposed to occur adjacent to EEL property, Owaissa Bauer Addition #1.

Our Statement of Significance is as follows:

The subject property, Owaissa Bauer Addition #1, is critically imperiled pine rockland, acquired for the purpose of conservation, that will function as a natural pine rockland preserve in perpetuity. This remnant pine rockland forest fragment was historically connected to a larger natural area, part of which remains in Camp Owaissa Bauer Park. The property is designated by the Board of County Commissioners as an Environmentally Endangered Lands (EEL) site and has been ranked #1 on the States Conservation and Recreation Lands (CARL) Bargain Share List as part of the "Dade Archipelago" project. The site was acquired with 50-50 matching funds by the County and the State in order to protect its natural resources.

The Florida Natural Areas Inventory designates pine rockland habitat as "G1 = Critically imperiled globally" a designation which indicates extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor. Pine rockland habitat is extremely rare and exists in limited areas of the Florida Keys and the Bahamas. The Owaissa Bauer preserve area serves as significant habitat for plants and animals. Several migratory bird species and raptors have been observed on site. The Owaissa Bauer Addition #1 is a natural preserve of Statewide significance.

This Department has the responsibility to protect and manage the subject property in accordance with Ch. 24-50 of the Miami-Dade County Code and

*Delivering Excellence Every Day*

ADA Coordination  
Agenda Coordination  
Art in Public Places  
Audit and Management Services  
Aviation  
Building Code Compliance  
Building  
Business Development  
Capital Improvements  
Citizen's Independent Transportation Trust  
Communications  
Community Action Agency  
Community & Economic Development  
Community Relations  
Consumer Services  
Corrections & Rehabilitation  
Countywide Healthcare Planning  
Cultural Affairs  
Elections  
Emergency Management  
Employee Relations  
Enterprise Technology Services  
Environmental Resources Management  
Fair Employment Practices  
Finance  
Fire Rescue  
General Services Administration  
Historic Preservation  
Homeless Trust  
Housing Agency  
Housing Finance Authority  
Human Services  
Independent Review Panel  
International Trade Consortium  
Juvenile Assessment Center  
Medical Examiner  
Metropolitan Planning Organization  
Park and Recreation  
Planning and Zoning  
Police  
Procurement Management  
Property Appraiser  
Public Library System  
Public Works  
Safe Neighborhood Parks  
Seaport  
Solid Waste Management  
Strategic Business Management  
Team Metro  
Transit  
Urban Revitalization Task Force  
Vizcaya Museum and Gardens  
Water and Sewer

Alice N. Bravo  
Florida Department of Transportation  
District Planning and Environmental Management Office  
Page 2

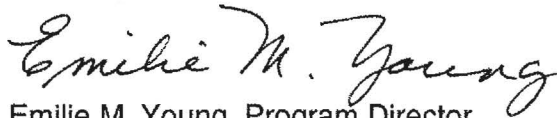
to regulate impacts to this natural forest community in accordance with Ch. 24-49 of the County Code.

Our response to your request for information regarding this site is attached, along with the following documents:

1. EEL Ordinance (Ch. 24-50)
2. Natural Forest Community regulations (Ch24-49)
3. Owaissa Bauer Addition #1 Biological Evaluation
4. Owaissa Bauer Addition #1 FY 2004-2005 Workplan & Budget
5. Owaissa Bauer Addition #1 Plant List compiled by Institute for Regional Conservation

Please contact me at (305) 372-6687 should you have any further questions or concerns.

Sincerely,



Emilie M. Young, Program Director  
Environmentally Endangered Lands Program



## **APPENDIX R**

### *Farmlands Conversion Impact Rating Form and Agency Correspondence*

FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS

## PART I (To be completed by Federal Agency)

3. Date Of Land Evaluation Request: 12/16/11

4.

Sheet 1 of 2

1. Name of Project: Krome Avenue "South" FM#24961-4-22-01

5. Federal Agency Involved: FHWA

2. Proposed Land Use: Transportation

6. County and State: Miami-Dade County, Florida

## PART II (To be completed by NRCS)

1. Date Request Received By  
NRCS1/9/112. Person Completing Form:  
R. Robbins

3. Does the corridor contain prime, unique, statewide or local important farmland?

YES NO

(If no, the FPPA does not apply - do not complete additional parts of this form)

x ☐

4. Acres Irrigated

38,954

Average Farm Size

27

5. Major Crop(s)

Vegetables, citrus

6. Farmable Land In Government Jurisdiction

Acres: 92,770 % 7.4

7. Amount of Farmland As Defined in FPPA

Acres: 52,725 % 4.2

8. Name of Land Evaluation System Used

Soil Productivity Rating

9. Name of State or Local Site Assessment System

None

10. Date Land Evaluation Returned by NRCS

1/9/11

## PART III (To be completed by Federal Agency)

Alternative Corridor For Segment: 1-4

Corridor A

Corridor B

Corridor C

Corridor d

A. Total Acres To Be Converted Directly

29.3

32.2

65.4

43.0

B. Total Acres To Be Converted Indirectly

28.9

29.3

32.2

65.4

43.0

## PART IV (To be completed by NRCS) Land Evaluation Information

A. Total Acres Prime And Unique Farmland

26

29

60

39.5

B. Total Acres Statewide Important or Local Important Farmland

0

0

0

0

C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted

.00001

.0001

.0001

.0001

D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value

70.3

70.3

70.3

70.3

## PART V (To be completed by NRCS) Land Evaluation Criterion

Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)

19.7

19.7

19.9

19.7

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria  
(Criteria are explained in 7 CFR 658.5 b & c. For Non-Corridor project use form AD-1006)Maximum  
Points

Corridor A

Corridor B

Corridor C

Corridor D

1. Area In Non-urban Use

(15)

2. Perimeter In Non-urban Use

(10)

3. Percent Of Corridor Being Farmed

(20)

4. Protection Provided By State and Local Government

(20)

5. Size Of Present Farm Unit Compared To Average

(10)

6. Creation Of Non-farmable Farmland

(25)

7. Availability Of Farm Support Services

(5)

8. On-Farm Investments

(20)

9. Effects Of Conversion On Farm Support Services

(25)

10. Compatibility With Existing Agricultural Use

(10)

TOTAL CORRIDOR ASSESSMENT POINTS

160

## PART VII (To be completed by Federal Agency)

Relative Value Of Farmland (From Part V)

100

19.7

19.7

19.9

19.7

Total Corridor Assessment (From Part VI above or local site assessment)

160

TOTAL POINTS (Total of above 2 lines)

260

1. Corridor Selected:

2. Total Acres of Farmlands to be  
Converted by Project:

3. Date Of Selection

4. Was A Local Site Assessment Used?

YES ☐NO ☐

5. Reason For Selection:

Signature of Federal agency representative completing this form:

Date:

NOTE: Complete one form for each segment with more than one Alternate Corridor

(See Instructions on reverse side)

Form NRCS-CPA-106 (03-02)



FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS

## PART I (To be completed by Federal Agency)

3. Date Of Land Evaluation Request: 12/16/11

4.

Sheet 2 of 2

1.: Name of Project: Krome Avenue "South" FM#24961-4-22-01

5. Federal Agency Involved: FHWS

2. Proposed Land Use: Transportation

6. County and State: Miami-Dade County, Florida

## PART II (To be completed by NRCS)

1. Date Request Received By NRCS  
1/9/112. Person Completing Form:  
R. Robbins3. Does the corridor contain prime, unique, statewide or local important farmland?  
(If no, the FPPA does not apply - do not complete additional parts of this form)YES NO  
X ☐4. Acres Irrigated  
38,954Average Farm Size  
275. Major Crop(s)  
Vegetables, citrus6. Farmable Land In Government Jurisdiction  
Acres: 92,770 % 7.47. Amount of Farmland As Defined in FPPA  
Acres: 52,725 % 4.28. Name of Land Evaluation System Used  
Soil Productivity Rating9. Name of State or Local Site Assessment System  
None10. Date Land Evaluation Returned by NRCS  
1/9/11

## PART III (To be completed by Federal Agency)

Alternative Corridor For Segment: 5

A. Total Acres To Be Converted Directly

Corridor A  
30.8

Corridor B

Corridor C

Corridor d

B. Total Acres To Be Converted Indirectly

0

C. Total Acres In Site

30.8

## PART IV (To be completed by NRCS) Land Evaluation Information

A. Total Acres Prime And Unique Farmland

27.9

B. Total Acres Statewide Important or Local Important Farmland

0

C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted

.0001

D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value

70.3

## PART V (To be completed by NRCS) Land Evaluation Criterion

Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)

19.7

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria  
(Criteria are explained in 7 CFR 658.5 b & c. For Non-Corridor project use form AD-1006)Maximum  
Points

Corridor A

Corridor B

Corridor C

Corridor D

1. Area In Non-urban Use

(15)

2. Perimeter In Non-urban Use

(10)

3. Percent Of Corridor Being Farmed

(20)

4. Protection Provided By State and Local Government

(20)

5. Size Of Present Farm Unit Compared To Average

(10)

6. Creation Of Non-farmable Farmland

(25)

7. Availability Of Farm Support Services

(5)

8. On-Farm Investments

(20)

9. Effects Of Conversion On Farm Support Services

(25)

10. Compatibility With Existing Agricultural Use

(10)

TOTAL CORRIDOR ASSESSMENT POINTS

160

## PART VII (To be completed by Federal Agency)

Relative Value Of Farmland (From Part V)

100

19.7

Total Corridor Assessment (From Part VI above or local site assessment)

160

TOTAL POINTS (Total of above 2 lines)

260

1. Corridor Selected:

2. Total Acres of Farmlands to be  
Converted by Project:

3. Date Of Selection

4. Was A Local Site Assessment Used?

YES ☐NO ☐

5. Reason For Selection:

Signature of Federal agency representative completing this form:

Date:

NOTE: Complete one form for each segment with more than one Alternate Corridor

(See Instructions on reverse side)

Form NRCS-CPA-106 (03-02)

## **STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM**

**(Use this form only for Corridor type projects. Other projects use form AD-1006)**

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Non-Corridor type projects, the Federal agency shall use form AD-1006 in place of form NRCS-CPA-106
- Step 2 - Originator will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days. In the event NRCS fails to complete a response within the required period, the agency may proceed as though the site were not farmland.)
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form.
- Step 7 - The Federal agency involved in the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA and the agency's internal policies.

## **INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM**

*(For Federal Agency)*

**Part I:** When completing the "County And State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

**Part III:** When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities) that will cause a direct conversion.

**Part VI:** Do not complete Part VI if a State or Local site assessment is used.

Assign the maximum points for each site assessment criterion as shown in § 658.5(b and c) of CFR. In cases of corridor-type project such as transportation, powerline and flood control, criteria #5 and #6 do not apply or show on form CPA-106, however, original criterion #8 will be weighed a maximum of 25 points and original criterion #11 a maximum of 25 points.

Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points are equal to or exceed 160, FPPA suggests the agency consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites).

In rating alternative corridors, Federal agencies shall consider each of the criteria and assign points within the limits established in the FPPA rule. Corridors most suitable for protection under these criteria will receive the highest total scores, and sites least suitable, the lowest scores.

**Part VII:** In computing the "Total Corridor Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, adjust the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$\frac{\text{Total points assigned Corridor A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Corridor A}$
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For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees consult the FPPA Manual and/or policy for additional instructions to complete form NRCS-CPA-106.

**United States Department of Agriculture**



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January 9<sup>th</sup>, 2012

Jorge Gomez, PE  
Project Manager  
Florida Department of Transportation, District VI  
1000 NW 111<sup>th</sup> Avenue  
Miami, Florida 33126

RE: Prime and Unique Farmland Assessment for Krome Avenue Project

This letter is in response to your request on the Prime and Unique Farmland assessment as part of the FPPA requirements for the Krome Avenue Project in Miami Dade County, Florida. Enclosed is the Important Farmlands map and Farmland Conversion Impact Rating form (CPA-106) for the project area.

Briefly, the USDA-NRCS is responsible for monitoring the conversion of Prime and Unique Farmlands to urban uses. We have determined that there are delineations Farmland of Unique Importance within the all alternative routes within the project.

Please note that since these alternatives intersect the same map units the relative values of the Farmland (Part V) are very similar. The only difference was the acreage distribution of Unique Farmland soils for each alternative.

Regards,

*Rick*  
**Rick Robbins**  
**USDA-NRCS**  
**Soil Scientist**  
**Gainesville, Florida**  
**Phone: 352.338.9536**

**w/ attachments**